

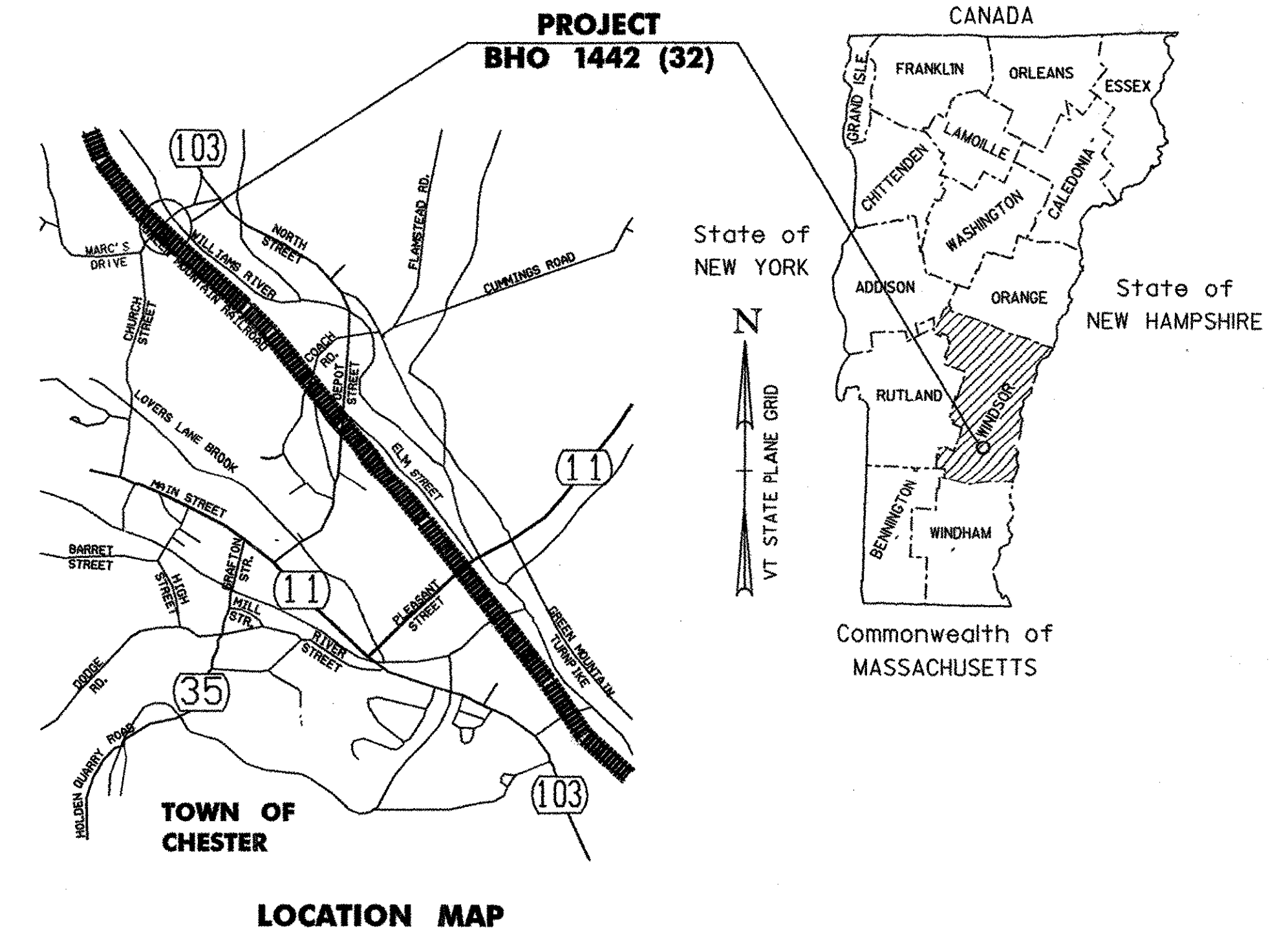
**INDEX OF SHEETS**

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- 21-22. ROADWAY CROSS SECTIONS

# STATE OF VERMONT AGENCY OF TRANSPORTATION



## PROPOSED IMPROVEMENT BRIDGE PROJECT TOWN OF CHESTER COUNTY OF WINDSOR



### CHURCH ST. (TH 5), BRIDGE NO 11

**PROJECT LOCATION:** BEGINNING AT A POINT ON CHURCH STREET (TH 5) APPROXIMATELY 0.15 MILES WEST OF THE JUNCTION OF VT 103 AND CHURCH STREET AND EXTENDING EASTERLY ALONG CHURCH STREET (TH 5) FOR 0.033 MILES.

**PROJECT DESCRIPTION:** REMOVAL OF EXISTING CONCRETE DECK, STEEL BEAMS AND BEARINGS; CONSTRUCTION OF NEW STEEL BEAM AND CAST-IN-PLACE CONCRETE DECK SUPERSTRUCTURE ON EXISTING SUBSTRUCTURES; AND RELATED APPROACH WORK.

**LENGTH OF STRUCTURE :** 116 FEET = 0.022 MILES  
**LENGTH OF ROADWAY :** 60 FEET = 0.011 MILES  
**LENGTH OF PROJECT :** 176 FEET = 0.033 MILES

**STANDARDS**

B-5	SLOPE GRADING, EMBANKMENTS (EARTH & ROCK), MUCK EXCAVATION	06-01-94
E-100	CONSTRUCTION APPROACH SIGNS	01-02-04
E-101	CONSTRUCTION SIGN DETAILS	05-30-03
E-102	CONSTRUCTION SIGN DETAILS	05-30-03
E-102A	CONSTRUCTION SIGN DETAILS	08-08-95
E-103	MAINLINE TRAFFIC CONTROL DIVIDED HIGHWAY, ONE LANE CLOSED	09-23-98
E-106	TRAFFIC CONTROL - MISCELLANEOUS DETAILS	08-08-95
E-107	DELINEATION, BARRICADES AND DETOURS FOR CONSTRUCTION AREAS	06-30-03
E-107A	BREAKAWAY BARRICADE DETAILS	08-08-95
E-108	CONSTRUCTION ZONE - LONGITUDINAL DROP OFFS	08-18-95
E-110	MAJOR MAINTENANCE OPERATION LANE CLOSURE	08-08-95
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROADS	08-08-95
E-160	FLANGED CHANNEL STEEL SIGN POST	05-20-99
G-1	STEEL BEAM GUARDRAIL W/ STEEL AND WOOD POSTS	01-03-00
G-1D	STEEL BEAM GUARDRAIL APPROACH END TERMINAL, HEAVY DUTY STEEL BEAM GUARDRAIL, STEEL BEAM GUARDRAIL TRAILING END TERMINAL, STEEL BEAM MEDIAN BARRIER, ANCHOR FOR STEEL BEAM RAIL	01-03-00
G-18	PRECAST CONCRETE TEMPORARY TRAFFIC BARRIER	06-01-94
SB-R6-82	BRIDGE RAILING HEAVY DUTY STEEL BEAM	01-06-95
SB-R7-90	BRIDGE RAILING HEAVY DUTY STEEL BEAM	01-11-95
T-1	TEMPORARY EROSION CONTROL DETAILS	06-01-94
T-2	TEMPORARY EROSION CONTROL DETAILS	06-01-94

**RECORD PLANS**

**CONTRACTOR:** FW WHITCOMB CONSTRUCTION CORP. - WALPOLE, NH

**RESIDENT ENGINEER:** WILL STODDARD

**CONSTRUCTION BEGAN:** MAY 26, 2004

**CONSTRUCTION COMPLETE:** NOVEMBER 19, 2004

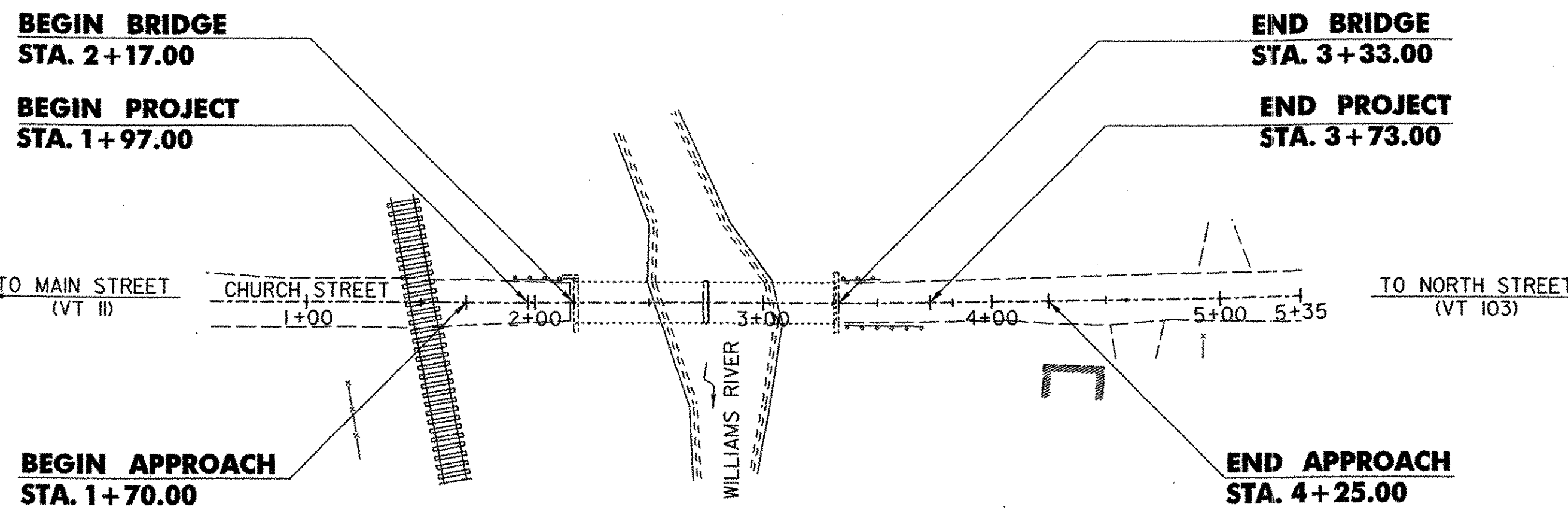
**RECORD PLANS BY:** WILL STODDARD & N. GARBACIK

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY *Will Stoddard* RESIDENT ENGINEER

DATE 10-30-06

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.



**CONVENTIONAL SYMBOLS**

COUNTY LINE	
TOWN LINE	
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

**SURVEYED BY :** DUBOIS & KING

**SURVEYED DATE :** 12/99

**DATUM**

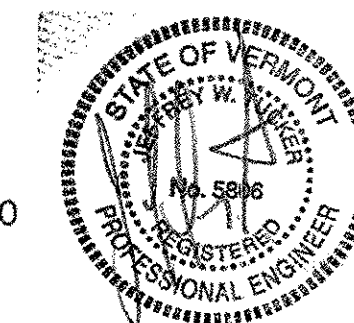
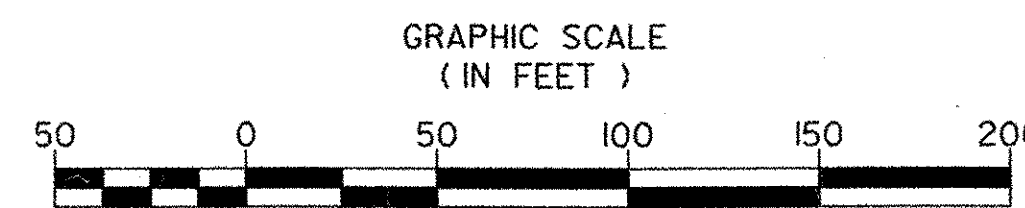
VERTICAL LOCAL

HORIZONTAL LOCAL

PLANS PREPARED BY:

**DuBois & King**

ENGINEERING PLANNING MANAGEMENT DEVELOPMENT



02/03/2004

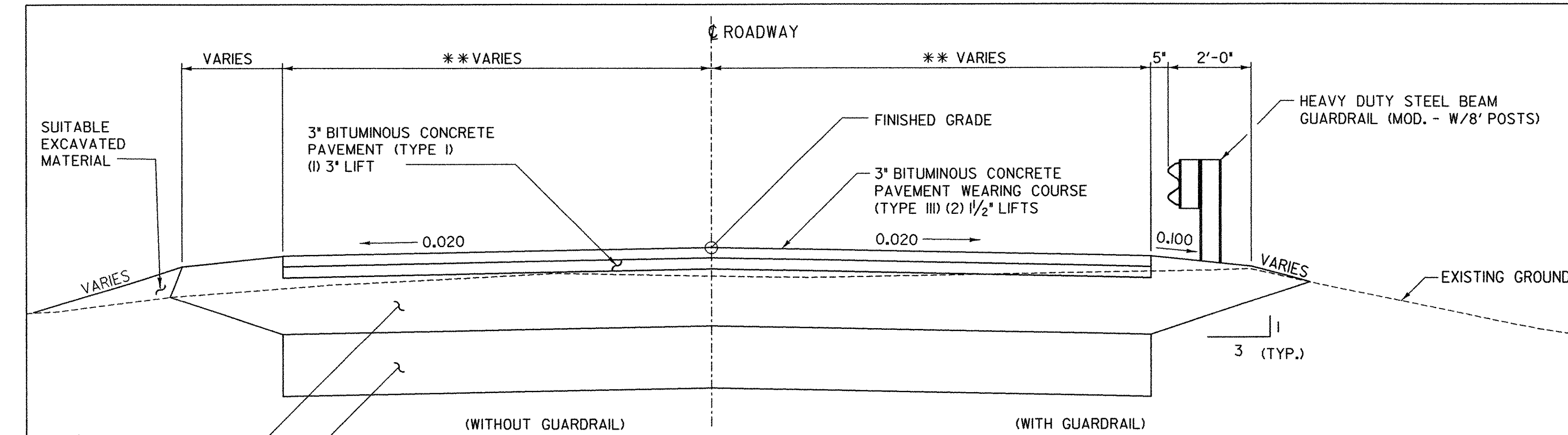
THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

APPROVED *Susan S. Spaulding* DATE 2-5-04  
 SUSAN S. SPAULDING  
 MUNICIPAL PROJECT MANAGER

APPROVED *[Signature]* DATE 2/19/04  
 DIRECTOR OF PROGRAM DEVELOPMENT

PROJECT NAME :  
**CHESTER BHO 1442 (32)**

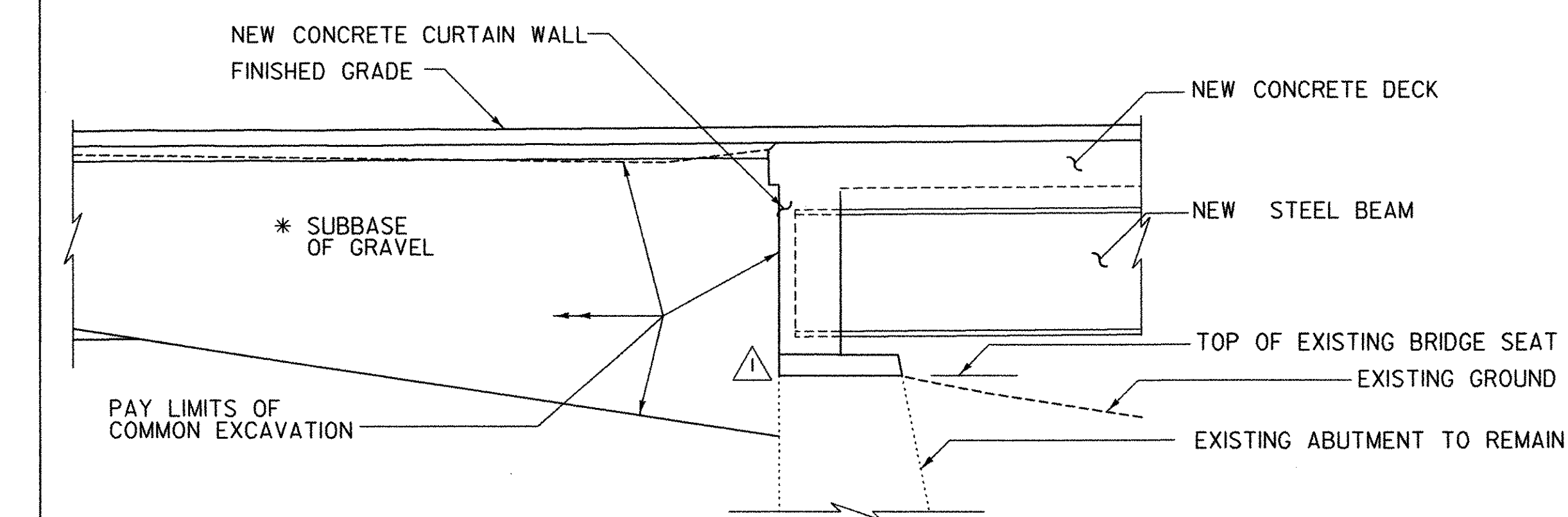
D & K DWG NO. 11344 Sheet 1 of 22



**TYPICAL ROADWAY SECTION**

SCALE 1/2" = 1'-0"  
1 0 1 2

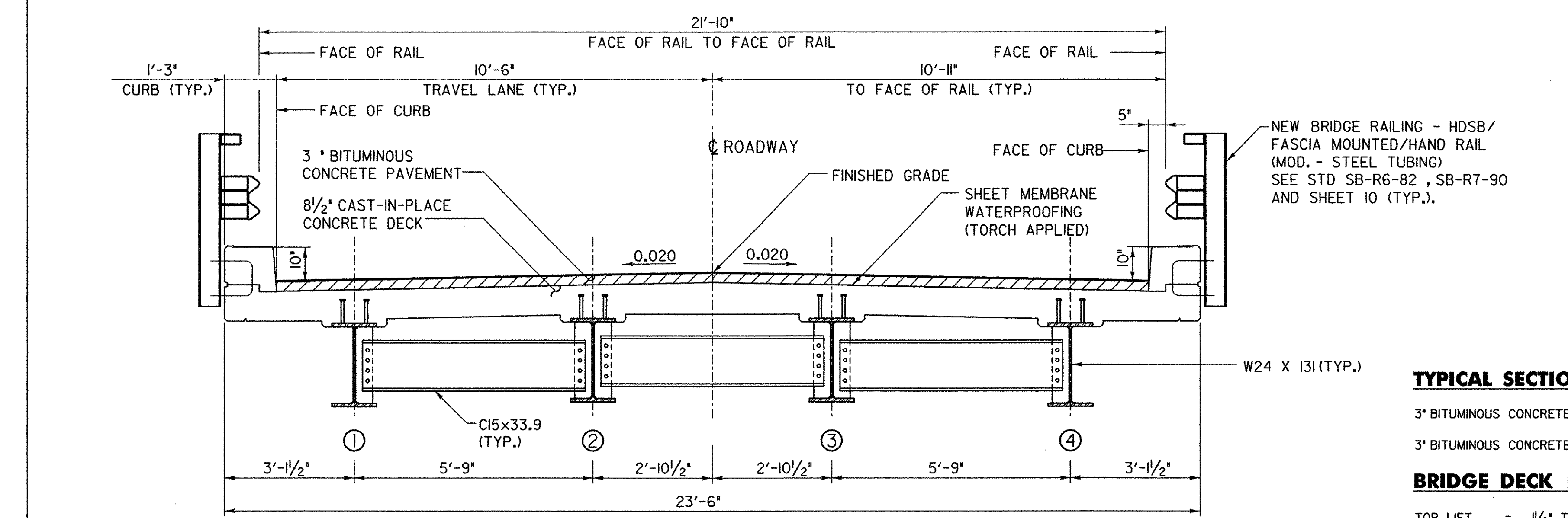
\* FOR MATERIAL DEPTH DETAILS SEE SHEET 6  
\*\* ROADWAY WIDTH VARIES THROUGHOUT PROJECT. REFER TO PLAN SHEET AND ROADWAY CROSS SECTIONS FOR WIDTHS AT SPECIFIC STATIONS.



**TYPICAL ABUTMENT SECTION**

SCALE 1/2" = 1'-0"  
1 0 1 2

NOTES:  
THE PAY LIMITS OF STRUCTURE EXCAVATION AND GRANULAR BACKFILL FOR THE NEW WING WALLS, SHALL BE AS SHOWN ON SHEET 18.



**TYPICAL BRIDGE SECTION**

SCALE 1/2" = 1'-0"  
1 0 1 2

\* NOTE: ALL BITUMINOUS CONCRETE PAVEMENT SHALL BE PG-58-34

**FINAL HYDRAULICS REPORT**

**HYDROLOGIC DATA**

DRAINAGE AREA= \_\_\_\_\_  
 CHARACTER OF TERRAIN: \_\_\_\_\_  
 CHARACTER & TYPE OF STREAM: \_\_\_\_\_  
 NATURE OF STREAMBED: \_\_\_\_\_

02.33= \_\_\_\_\_ 050= \_\_\_\_\_  
 010= \_\_\_\_\_ 0100= \_\_\_\_\_  
 025= \_\_\_\_\_ 0500= \_\_\_\_\_

DATE OF FLOOD OF RECORD: \_\_\_\_\_  
 WATER SURFACE ELEV.: \_\_\_\_\_ ESTIMATED DISCHARGE: \_\_\_\_\_  
 NATURAL STREAM VELOCITY @ Q: \_\_\_\_\_  
 ICE CONDITIONS: \_\_\_\_\_ DEBRIS: \_\_\_\_\_  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? \_\_\_\_\_  
 IS ORDINARY RISE RAPID? \_\_\_\_\_  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? \_\_\_\_\_  
 IF YES, DESCRIBE: \_\_\_\_\_

WATERSHED STORAGE \_\_\_\_\_ HEADWATERS \_\_\_\_\_ UNIFORM THROUGHOUT WATERSHED \_\_\_\_\_  
 IMMEDIATELY ABOVE SITE \_\_\_\_\_

**EXISTING STRUCTURE**

STRUCTURE TYPE: TWO SPAN STEEL BEAM WITH CONCRETE DECK YEAR BUILT: 1940  
 CLEAR SPAN (NORMAL TO STREAM): 109 FT.  
 VERTICAL CLEARANCE ABOVE STREAMBED: \_\_\_\_\_  
 WATERWAY OF FULL OPENING: \_\_\_\_\_  
 DISPOSITION OF STRUCTURE: REMOVE EXISTING SUPERSTRUCTURE  
 EXISTING ABUTMENTS AND PIER ARE TO REMAIN

TYPE OF MATERIAL UNDER SUBSTRUCTURE: \_\_\_\_\_

WATER SURFACE ELEV. @ Q2.33= \_\_\_\_\_ VELOCITY= \_\_\_\_\_  
 010= \_\_\_\_\_  
 025= \_\_\_\_\_  
 050= \_\_\_\_\_  
 0100= \_\_\_\_\_

LONG TERM STREAM BED CHANGES: \_\_\_\_\_

IS THE ROADWAY OVERTOPPED BELOW THE Q100? \_\_\_\_\_ FREQUENCY: \_\_\_\_\_  
 RELIEF ELEVATION: \_\_\_\_\_ DISCHARGE OVER ROAD @ Q100: \_\_\_\_\_

STRENGTH RF =  $\frac{\phi M_N - 1.3M_{DL}}{A \times M_{LL+I}}$

\*SERVICEABILITY RF = B  $\left[ \frac{.95F_y S_{LL+I} - M_{DL} \frac{S_{LL+I}}{S_{DL}} - M_{SD} \frac{S_{LL+I}}{S_{DL}}}{1.67 M_{LL+I}} \right]$

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A STR	4A STR	5A SEMI
INVENTORY	50	58					
A=2.17 B=1.00							
POSTED	70	82	109		38	79	103
A=1.55 B=1.40							
OPERATING		97	130	125	45	94	
A=1.30 B=1.67							

**DESIGN CRITERIA:**

1. DESIGN LIVE LOAD AASHTO HS-25-44  
 2. DESIGN SPAN 114.0 FT.  
 3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A  
 4. ALLOWABLE LOAD FOR PILING N/A TYPE ESTIMATED LENGTH N/A  
 5. STRUCTURAL STEEL AASHTO M270M/M270, GRADE 50 W  
 6. REINFORCING STEEL GRADE 60  
 7. CONCRETE, HIGH PERFORMANCE CLASS A  $f_c$  4000 psi  
 CONCRETE, HIGH PERFORMANCE CLASS B  $f_c$  3500 psi

**TRAFFIC MAINTENANCE:**

1. IS TRAFFIC TO BE MAINTAINED? NO IF YES, ON EXISTING STRUCTURE N/A OR ON TEMPORARY BRIDGE N/A  
 EXISTING BRIDGE TO BE CLOSED, TRAFFIC TO BE DETOURED AROUND CONSTRUCTION SITE

2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY N/A TRAFFIC CONTROL SIGNALS REQUIRED N/A

MINIMUM CLEAR SPAN (NORMAL TO STREAM): \_\_\_\_\_ VERTICAL CLEARANCE ABOVE STREAMBED: \_\_\_\_\_  
 WATERWAY OF FULL OPENING: \_\_\_\_\_  
 ARE SIDEWALKS REQUIRED? \_\_\_\_\_ IF SO, ON WHAT SIDE? \_\_\_\_\_  
 STRUCTURE TYPE: \_\_\_\_\_

**TYPICAL SECTIONS**

3" BITUMINOUS CONCRETE PAVEMENT (TYPE III)  
 3" BITUMINOUS CONCRETE PAVEMENT (TYPE I)

**BRIDGE DECK PAVEMENT**

TOP LIFT = 1/2" TYPE III  
 BOTTOM LIFT = 1/2" TYPE IV  
 EMULSIFIED ASPHALT BETWEEN LIFTS

REVISIONS

NO.	DESCRIPTION	BY & DATE
1	CONCRETE ABUTMENT CAP ADDED TO TYPICAL ABUTMENT SECTION	APG 2/3/04



**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of CHESTER Bridge No. 11  
 Highway No. TH 5 Log Sta. -  
 Surv. Sta. -

**CHURCH STREET OVER WILLIAMS RIVER**

**PRELIMINARY INFORMATION SHEET**


Designed By B. C. AUSTIN Drawn By G. J. WOJCIECHOWSKI  
 Checked By J. TUCKER Date 03/01 Bridge Design Supervisor J. TUCKER Date 03/01

PROJECT CHESTER PROJECT NO. BHO 1442 (32)

I.G.C. Info. ...Z1365p12 .dgn  
 D & K DWG NO. 11345 Sheet 2 of 22

# BRIDGE QUANTITY SHEET

NO.	ITEM	UNIT	QUANTITY BREAKDOWN							TOTAL	GRAND TOTAL
			SUPER STRUCT.	ABUTMENT. NO. 1	ABUTMENT. NO. 2	PIER	EROSION CONTROL	ROADWAY	FULL E & C		
203.15	COMMON EXCAVATION	CY						290		290	
203.28	EXCAVATION OF SURFACE AND PAVEMENT	CY						32		32	
203.31	SAND BORROW	CY						30		30	
204.25	STRUCTURE EXCAVATION	CY			70					70	
204.30	GRANULAR BACKFILL FOR STRUCTURES	CY			45					45	
210.10	COLD PLANING - BITUMINOUS CONCRETE	SY						110		110	
301.15	SUBBASE OF GRAVEL	CY						160		160	
406.27	MEDIUM DUTY BITUMINOUS CONC. PAVEMENT (PG 58-34)	TON	45					85		130	
501.33	CONCRETE, HIGH PERFORMANCE CLASS A	CY	95	1	1					97	
501.34	CONCRETE, HIGH PERFORMANCE CLASS B	CY		3	17	6				26	
506.50	STRUCTURAL STEEL (ROLLED BEAM)	LB	70450							70450	
507.15	REINFORCING STEEL	LB		45	1625					1670	
507.16	DRILLING AND GROUTING DOWELS	LF		25		15				40	
507.17	EPOXY COATED REINFORCING STEEL	LB	21400	100	250	750				22500	
508.15	SHEAR CONNECTORS (1144 - 7/8" X 7")	LS	1							1	
514.10	WATER REPELLENT	GAL	8	2	2	8				20	
519.20	SHEET MEMBRANE WATERPROOFING (TORCH APPLIED)	SY	300							300	
524.10	JOINT SEALER, HOT Poured	GAL	1							1	
525.43	BRIDGE RAILING-HDSB/FASCIA MOUNTED/HANDRAIL (MOD. - STEEL TUBING)	LF	271							271	
529.10	REMOVAL OF BRIDGE PAVEMENT	SY	280							280	
529.20	PARTIAL REMOVAL OF STRUCTURE	EA	0.7	0.1	0.1	0.1				1	
531.10	BEARING DEVICE ASSEMBLY	EA		4	4	4				12	
580.13	REPAIR CONCRETE SUBSTRUCTURE SURFACE CLASS I	SY		1	1	2				4	
580.14	REPAIR CONCRETE SUBSTRUCTURE SURFACE CLASS II	SY		1	1	2				4	
580.15	REPAIR CONCRETE SUBSTRUCTURE SURFACE CLASS III	CY				1				1	
609.10	DUST CONTROL WITH WATER	MGAL						10		10	
613.11	STONE FILL, TYPE II	CY						90		90	
621.21	HEAVY DUTY STEEL BEAM GUARDRAIL (MOD. - W/8' POSTS)	LF						190		190	
621.60	ANCHOR FOR STEEL BEAM RAIL	EA						4		4	
621.80	REMOVAL AND DISPOSAL OF GUARD RAIL	LF						80		80	
621.90	TEMPORARY TRAFFIC BARRIER	LF						60		60	
630.10	UNIFORMED TRAFFIC OFFICERS	HR						50		50	
630.15	FLAGGERS	HR						50		50	
631.10	FIELD OFFICE - ENGINEERS	LS							1	1	
631.16	TESTING EQUIPMENT - CONCRETE	LS							1	1	
631.17	TESTING EQUIPMENT - BITUMINOUS	LS							1	1	
631.25	FIELD OFFICE - TELEPHONE (N.A.B.I.)	LU							1	1	
635.10	MOBILIZATION	LS	0.8				0.2			1	
641.10	TRAFFIC CONTROL	LS						1		1	
646.20	4" WHITE LINE	LF						510		510	
646.21	4" YELLOW LINE	LF						510		510	
649.31	GEOTEXTILE UNDER STONE FILL	SY						170		170	
649.51	GEOTEXTILE FOR SILT FENCE	SY					140			140	
651.15	SEED	LB					25			25	
651.18	FERTILIZER	LB					50			50	
651.20	AGRICULTURAL LIMESTONE	TON					1			1	
651.25	HAY MULCH	TON					1			1	
651.26	HAY BALES FOR EROSION CONTROL	EA					50			50	
651.35	TOPSOIL	CY					50			50	
652.10	EROSION AND SEDIMENT CONTROL PLAN	LS					1			1	
652.20	MONITORING EROSION AND SEDIMENT CONTROL PLAN	HR					80			80	
652.30	FIELD MAINTENANCE OF EROSION AND SEDIMENT CONTROL PLAN (N.A.B.I.)	LU					1			1	

REVISIONS			<b>STATE OF VERMONT</b> <b>AGENCY OF TRANSPORTATION</b>	
NO.	DESCRIPTION	BY & DATE		
			Town Of <b>CHESTER</b> Bridge No. <b>11</b> Highway No. <b>TH 5</b> Log Sta. <b>-</b> Surv. Sta. <b>-</b> <b>CHURCH STREET OVER WILLIAMS RIVER</b>	
<b>QUANTITY SHEET</b>			Designed By <b>B. AUSTIN</b> Drawn By <b>G. J. WOJCIECHOWSKI</b> Checked By <b>J. TUCKER</b> Date <b>10/03</b> Bridge Design Supervisor <b>J. TUCKER</b> Date <b>10/03</b>	
 ENGINEERING      PLANNING      MANAGEMENT      DEVELOPMENT			PROJECT <b>CHESTER</b> PROJECT NO. <b>BHO 1442 (32)</b> I.G.C. Info. <b>...zj365q03 .dgn</b> D & K DWG NO. <b>11346</b> Sheet <b>3</b> of <b>22</b>	

02/13/2004

LAYOUT COORDINATES			
STA. 1+00.00	POB	N 9981.94	E 9890.62
STA. 2+17.00	BEGIN BRIDGE	N 10018.10	E 10001.90
STA. 3+30.18	PC	N 10053.21	E 10109.97
STA. 3+33.00	END BRIDGE	N 10053.94	E 10112.22
STA. 3+94.90	PI	N 10073.07	E 10171.09
STA. 4+59.61	PT	N 10093.96	E 10231.86
STA. 5+35.40	POE	N 10118.73	E 10303.97
HVCTRL 1	CONTROL POINT	N 10000.00	E 10000.00
HVCTRL 2	CONTROL POINT	N 10101.85	E 10068.70

**BOB PANTO**  
805 CHURCH ST  
CHESTER VT 05143  
802-875-3476

BENCHMARK #2  
SPIKE IN POWER POLE #28  
ELEVATION 102.6860

BENCHMARK #1  
TOP OF SPINDLE NUT AT ARROW  
ON FIRE HYDRANT  
ELEVATION 105.5580

BENCHMARK #3  
TOP OF CONCRETE BOUND  
ELEVATION 98.3100

**BEGIN APPROACH**  
**STA. 1+70.00**

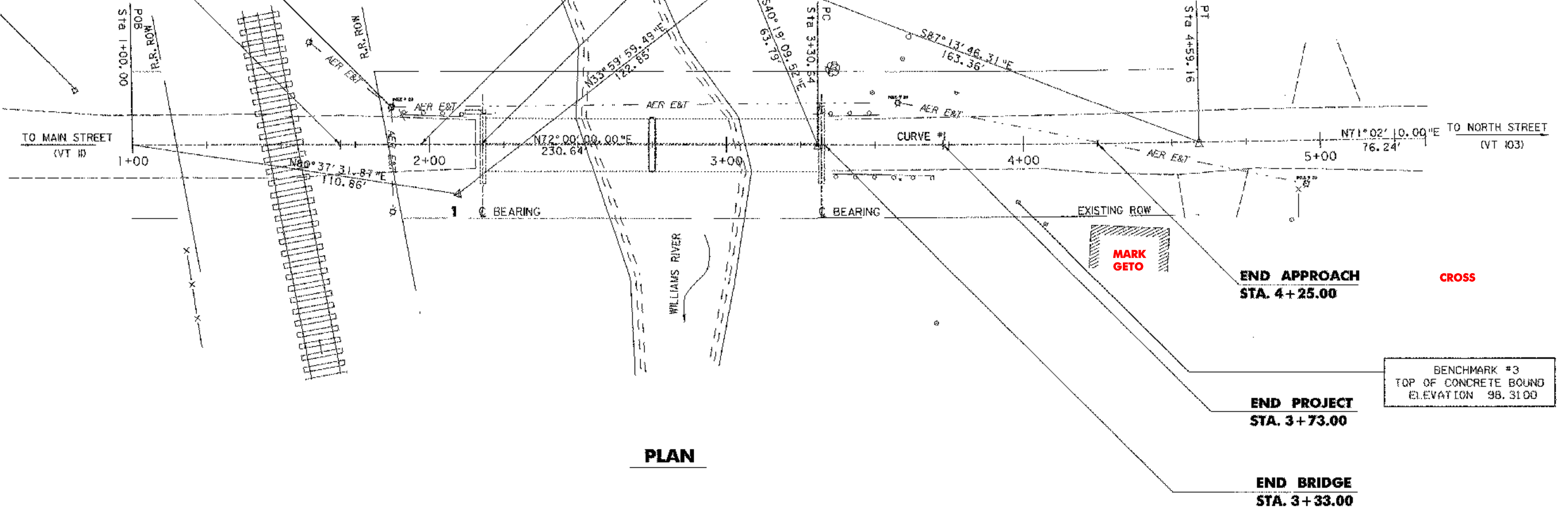
**BEGIN PROJECT**  
**STA. 1+97.00**

**BEGIN BRIDGE**  
**STA. 2+17.00**

**END APPROACH**  
**STA. 4+25.00**

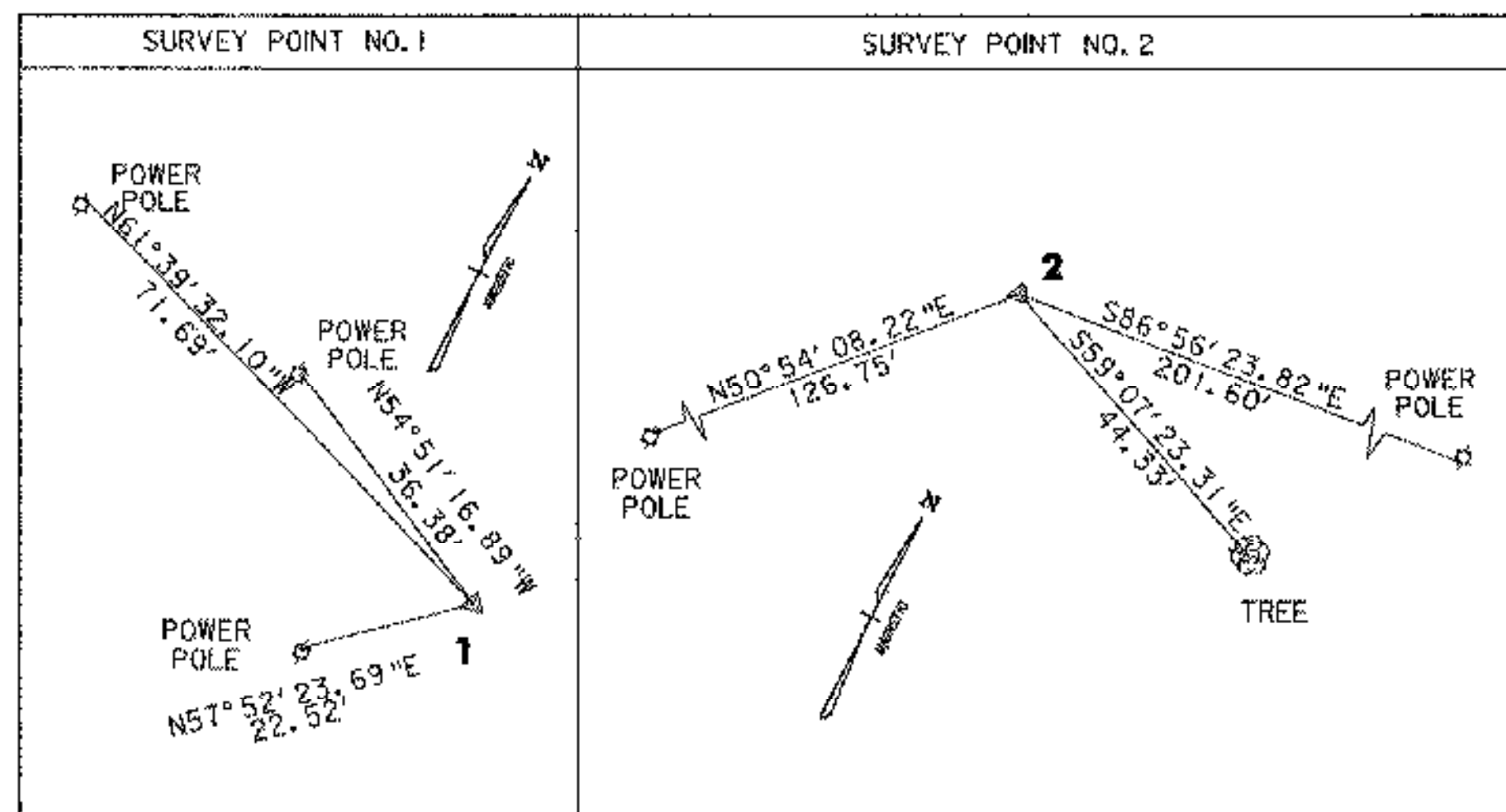
**END PROJECT**  
**STA. 3+73.00**

**END BRIDGE**  
**STA. 3+33.00**



**PLAN**

**TIES**



**LEGEND**

- EXISTING EDGE OF RIVER
- EXISTING TRAVELED WAY
- EXISTING GUARD RAIL
- CULVERT
- UTILITY POLE
- TELEPHONE POLE
- TREES
- TREE LINE
- OVERHEAD LINES
- SURVEY POINT



**CURVE DATA**

CURVE # 1
Δ = 0°57'50"
R = 7639.50'
T = 64.26'
L = 128.52'
D = 0°45'00"

DATUM  
VERTICAL LOCAL  
HORIZONTAL LOCAL



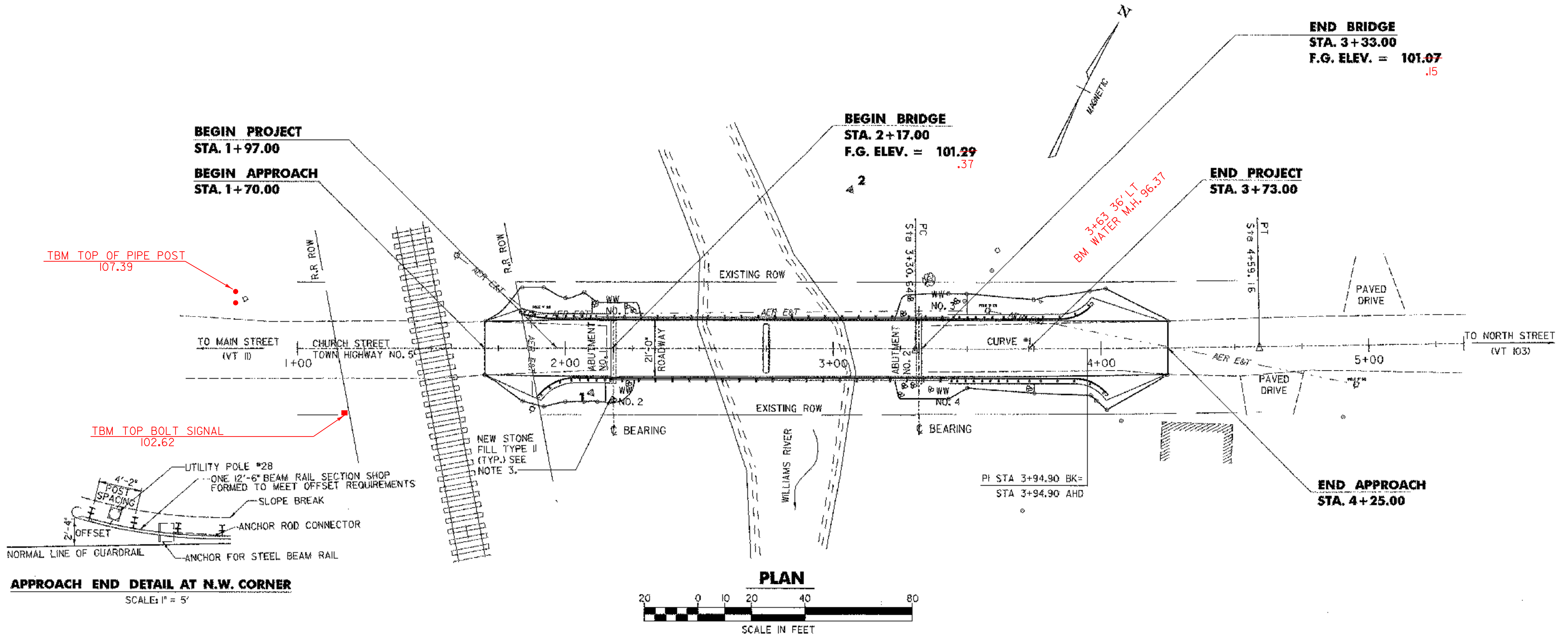
02/03/2004

REVISIONS		STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	
		Town Of CHESTER Bridge No. 11	
		Highway No. TH 5 Log Sta. -	
		Surv. Sta. -	
<b>CHURCH STREET OVER WILLIAMS RIVER</b>			
<b>TIE SHEET</b>			
Designed By G. J. WOJCIECHOWSKI		Drawn By G. J. WOJCIECHOWSKI	
Checked By J. TUCKER	Date 03/01	Bridge Design Supervisor J. TUCKER	Date 03/01
PROJECT CHESTER		PROJECT NO. BHO 1442 (32)	
I.G.C. Info. ...zj365104.dgn			
D & K DWG NO. 11347		Sheet 4 of 22	

**DuBois & King**  
INC.

engineering planning management development

FINAL GRADE RAISED 1" TO OBTAIN 1" MIN BEAM HAUNCH



**ANCHOR FOR STEEL BEAM GUARDRAIL**

STA 1+86.70 LT      STA 3+90.50 LT  
STA 1+97.40 RT      STA 3+95.80 RT

**COLD PLANING-BITUMINOUS PAVEMENT**

STA 1+70.00 TO STA 1+85.00  
STA 3+95.00 TO STA 4+25.00

**REMOVAL AND DISPOSAL OF GUARDRAIL**

32' 1+80.00 STA 1+91.00 TO STA 2+12.00 LT  
18' STA 3+34.00 TO STA 3+51.00 LT 3+52.00  
40' STA 3+34.00 TO STA 3+70.00 RT 3+74.00

**HEAVY DUTY STEEL BEAM GUARDRAIL (MOD. - W/8' POSTS)**

STA 1+82.50 TO STA 2+07.50 LT  
STA 1+89.75 TO STA 2+14.75 RT  
STA 3+47.00 TO STA 3+97.00 LT  
STA 3+46.00 TO STA 4+02.25 RT

**4" WHITE LINES**

STA 1+70.00 TO STA 4+25.00 SOLID RT & LT

**4" YELLOW LINES (DOUBLE CENTERLINE)**

STA 1+70.00 TO STA 4+25.00 SOLID RT & LT

**STONE FILL, TYPE II**

STA 2+15 TO STA 2+25 RT  
STA 2+10 TO STA 2+28 LT  
STA 3+24 TO STA 3+75 RT  
STA 3+24 TO STA 3+50 LT

**CURVE DATA**

CURVE # 1	
Δ	= 0° 57' 50"
R	= 7639.50'
T	= 64.26'
L	= 128.52'
D	= 0° 45' 00"

**NOTES:**

1. THE EXISTING R.O.W. ON CHURCH STREET IS ASSUMED TO BE A 3 ROD (49.5 FEET), CENTERED ON THE EXISTING ROADWAY.
2. THE EXISTING RAILROAD R.O.W IS ASSUMED TO BE 70 FEET, CENTERED ON THE TRACK.
3. NEW STONE FILL, TYPE II SHALL BE PLACED ON SIDE SLOPES AT LOCATIONS SHOWN, SEE DETAIL SHEET 22.
4. THE UTILITY COMPANY SHALL BE CONTACTED IN ADVANCE OF EXCAVATING NEAR UTILITY POLE #28 TO ALLOW TEMPORARY STABILIZATION DURING THE PLACEMENT OF THE GUARDRAIL ANCHOR.

DATUM	
VERTICAL	LOCAL
HORIZONTAL	LOCAL

**LEGEND**

EXISTING EDGE OF RIVER	
EXISTING TRAVELED WAY	
PROPOSED TRAVELED WAY	
ROW	
GUARD RAIL	
CULVERT	
UTILITY POLE	
TELEPHONE POLE	
TREES	
TREE LINE	

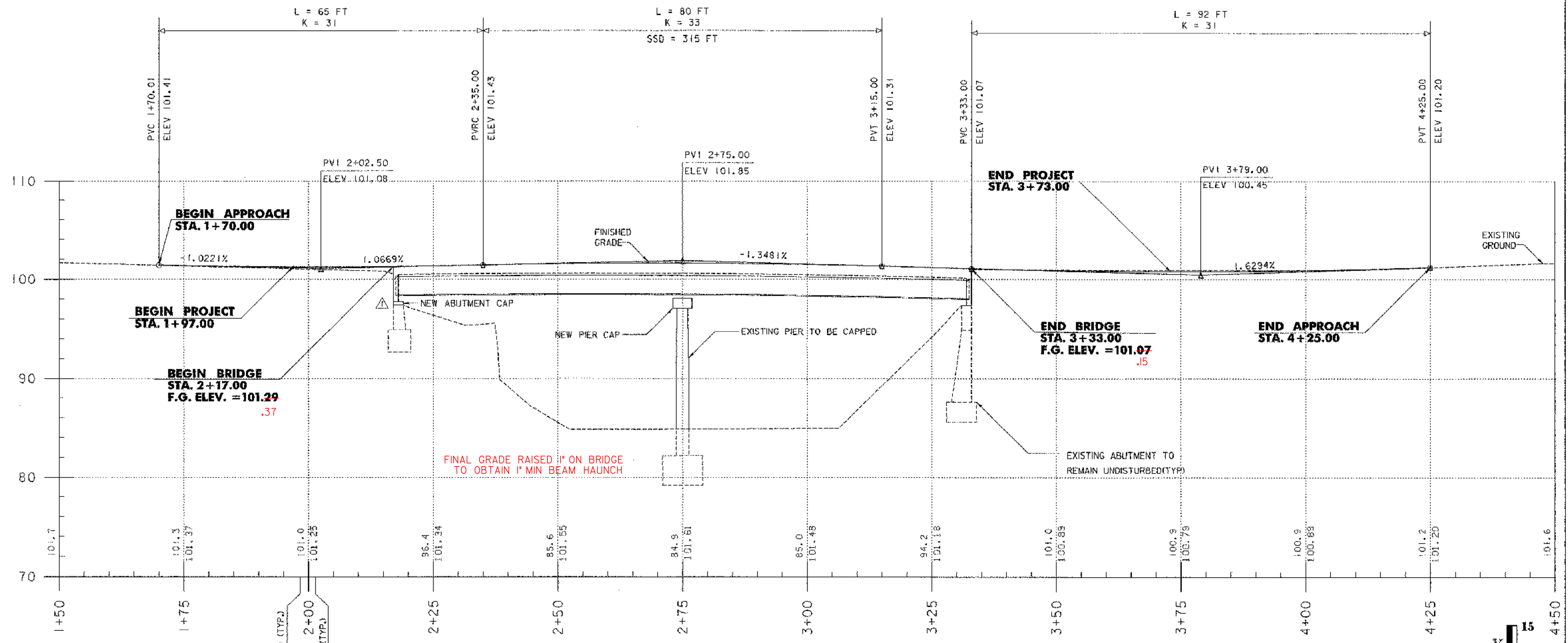
REVISIONS		
NO.	DESCRIPTION	BY & DATE

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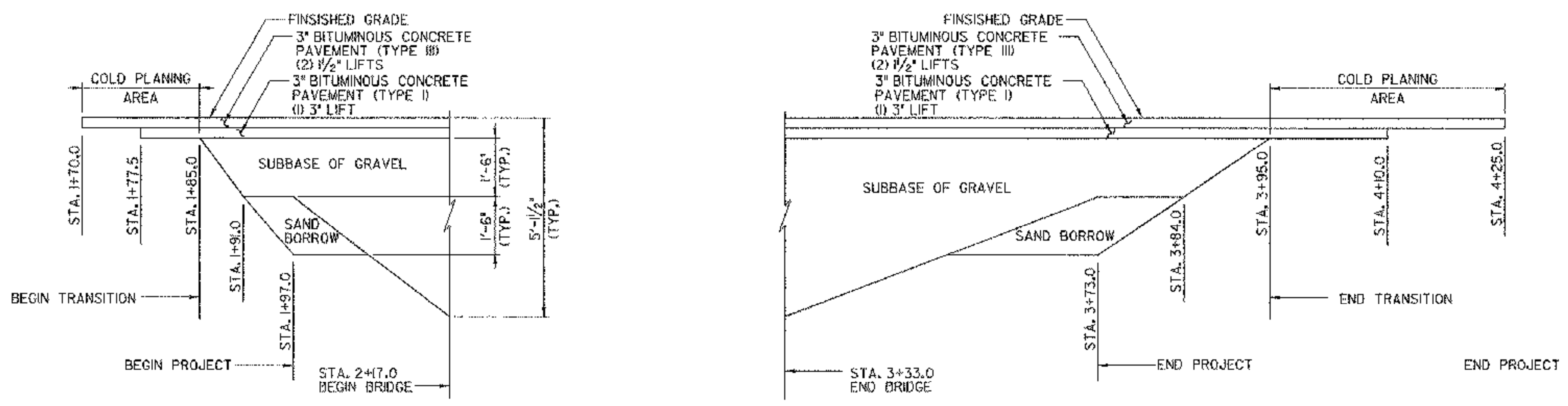
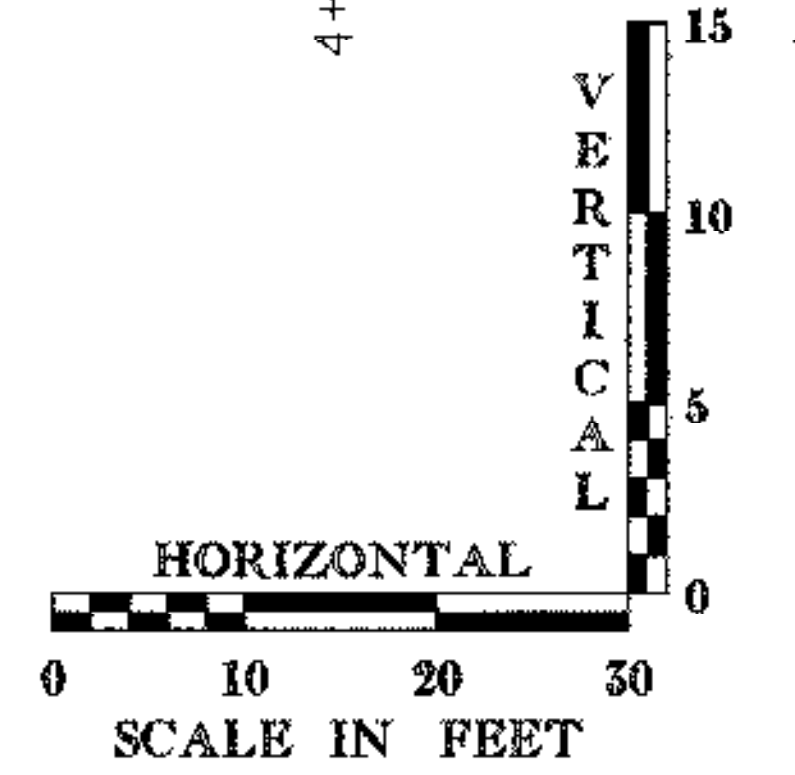
<b>STATE OF VERMONT</b>			
<b>AGENCY OF TRANSPORTATION</b>			
Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
CHURCH STREET OVER WILLIAMS RIVER		Surv. Sta.	-
<b>PLAN SHEET</b>			
Designed By	B. C. AUSTIN	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
PROJECT		Bridge Design Supervisor	Date
CHESTER		J. TUCKER	03/01
PROJECT NO.		PROJECT NO.	
BHO 1442 (32)		BHO 1442 (32)	
L.G.C. Info. ...ZJ365105.dgn			
D & K DWG NO.	11348	Sheet	5 of 22

02/03/2004



**PROFILE - CHURCH STREET**

SCALE: HORIZ. 1" = 10'  
VERT. 1" = 5'



**MATERIAL DEPTH TRANSITION DETAIL**

N.T.S.

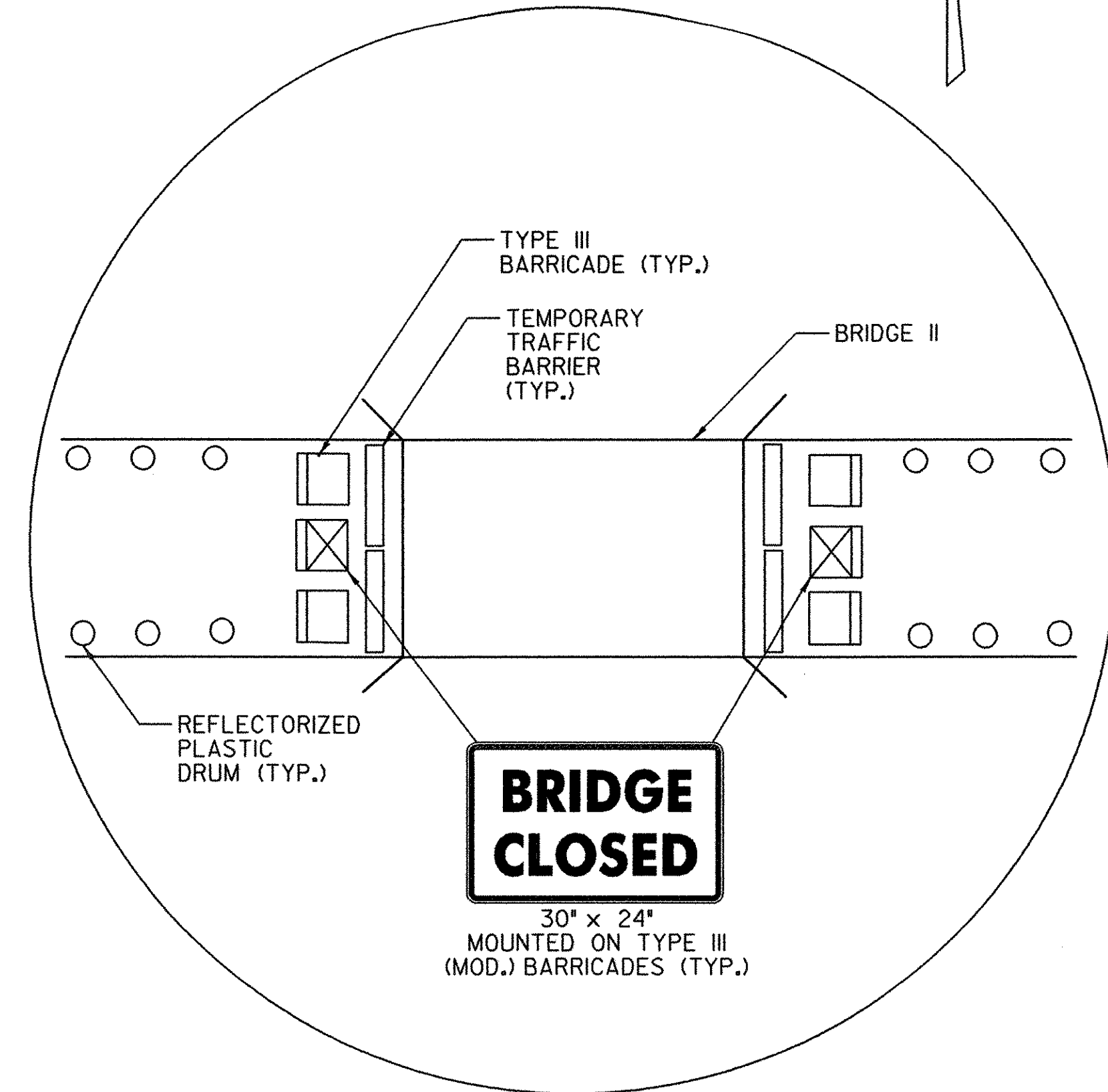
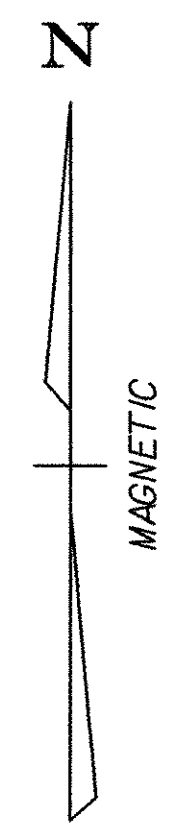
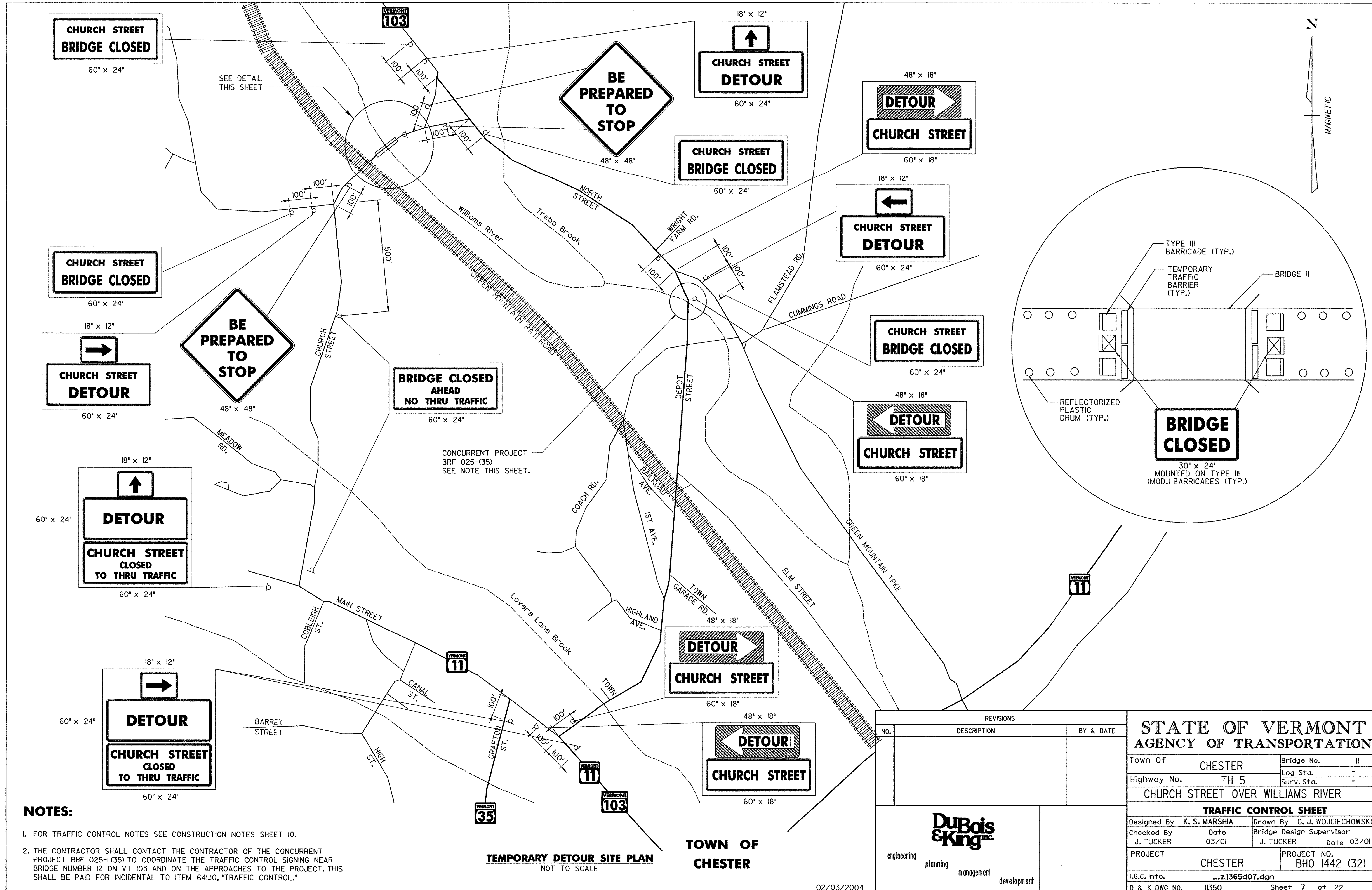
REVISIONS		
NO.	DESCRIPTION	BY & DATE
1	ADDED ABUTMENT CAP TO ABUTMENT NO. 1 IN PROFILE	APG 2/3/04

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log. Sta.	-
CHURCH STREET OVER WILLIAMS RIVER		Surv. Sta.	-
<b>PROFILE</b>			
Designed By	G. J. WOJCIECHOWSKI	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Bridge Design Supervisor	J. TUCKER
Date	03/01	Date	03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.G.C. Info.	...zj365p#6.dgn		
D & K DWG NO.	I349	Sheet	6 of 22

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02/10/2004



- NOTES:**
- FOR TRAFFIC CONTROL NOTES SEE CONSTRUCTION NOTES SHEET 10.
  - THE CONTRACTOR SHALL CONTACT THE CONTRACTOR OF THE CONCURRENT PROJECT BHF 025-1(35) TO COORDINATE THE TRAFFIC CONTROL SIGNING NEAR BRIDGE NUMBER 12 ON VT 103 AND ON THE APPROACHES TO THE PROJECT. THIS SHALL BE PAID FOR INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL."

**TEMPORARY DETOUR SITE PLAN**  
NOT TO SCALE

**TOWN OF CHESTER**

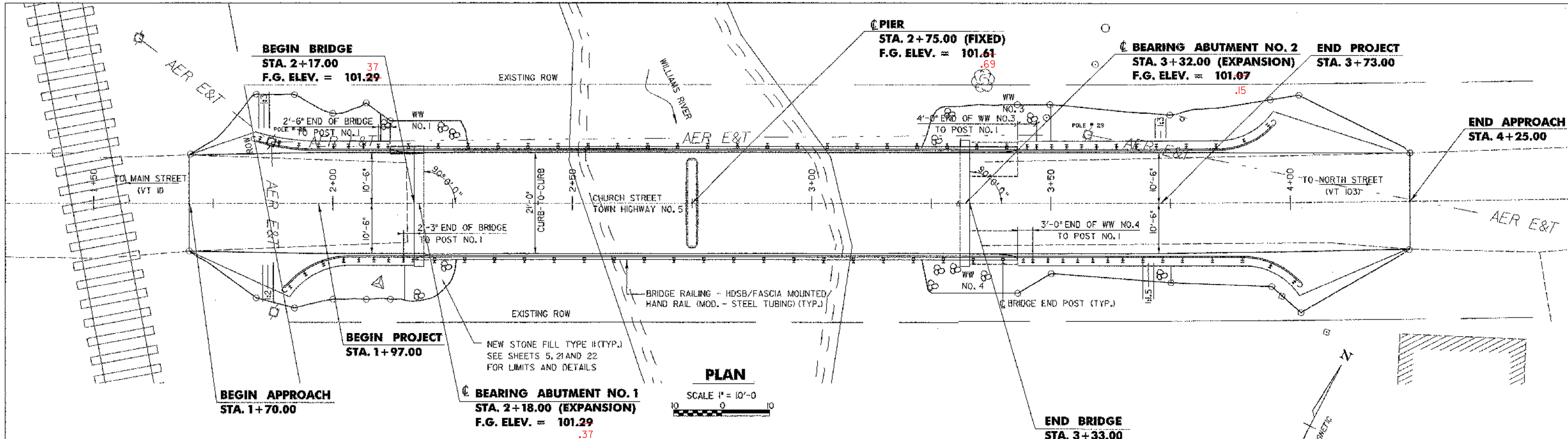
REVISIONS		
NO.	DESCRIPTION	BY & DATE

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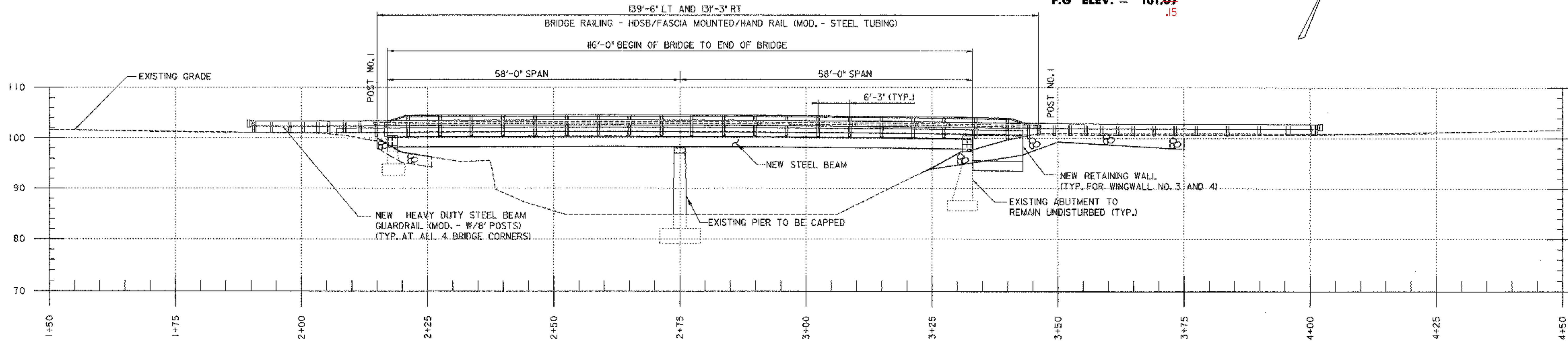
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
		Surv. Sta.	-
CHURCH STREET OVER WILLIAMS RIVER			
<b>TRAFFIC CONTROL SHEET</b>			
Designed By	K. S. MARSHIA	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
		Bridge Design Supervisor	J. TUCKER    Date 03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.G.C. Info.	...zj365d07.dgn		
D & K DWG NO.	11350	Sheet	7 of 22

02/03/2004

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**PLAN**  
SCALE 1" = 10'-0"  
10 0 10



**ELEVATION**  
SCALE 1" = 10'-0"  
10 0 10

**NOTES**

1. THE EXISTING R.O.W. ON CHURCH STREET IS ASSUMED TO BE A 3 ROD (49.5 FEET), CENTERED ON THE EXISTING ROADWAY.
2. THE EXISTING RAILROAD R.O.W IS ASSUMED TO BE 20 FEET, CENTERED ON THE TRACK.

DATUM	
VERTICAL	LOCAL
HORIZONTAL	LOCAL

REVISIONS		
NO.	DESCRIPTION	BY & DATE

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

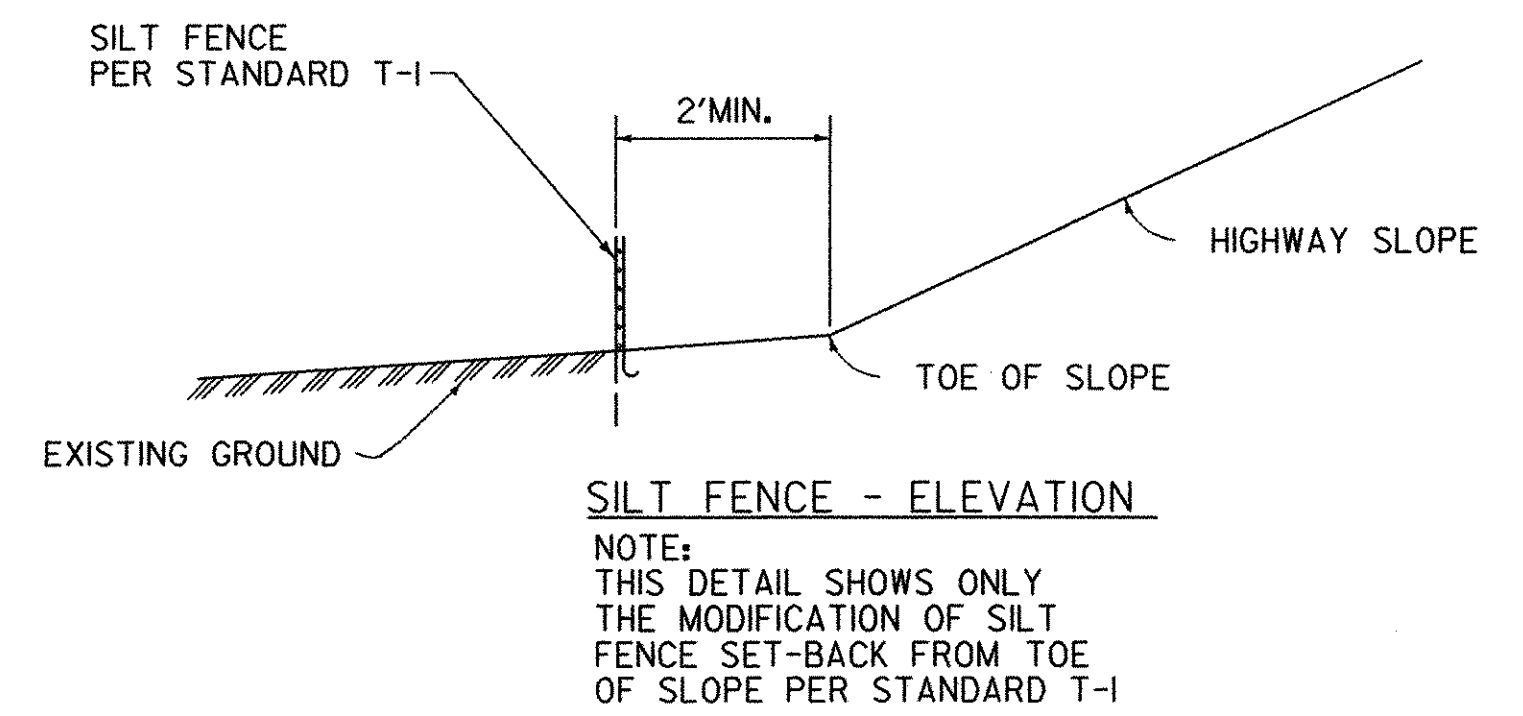
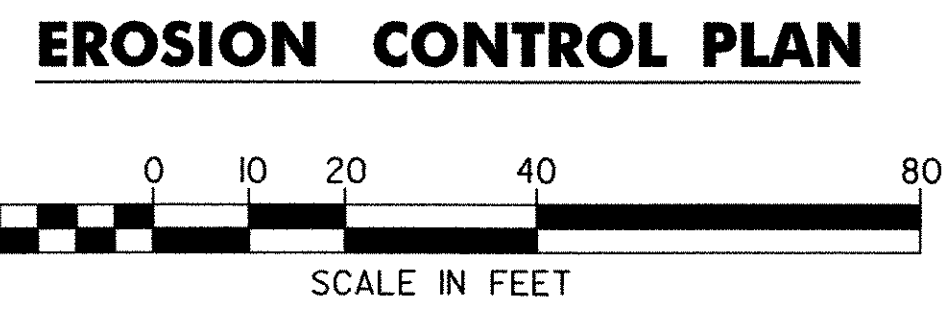
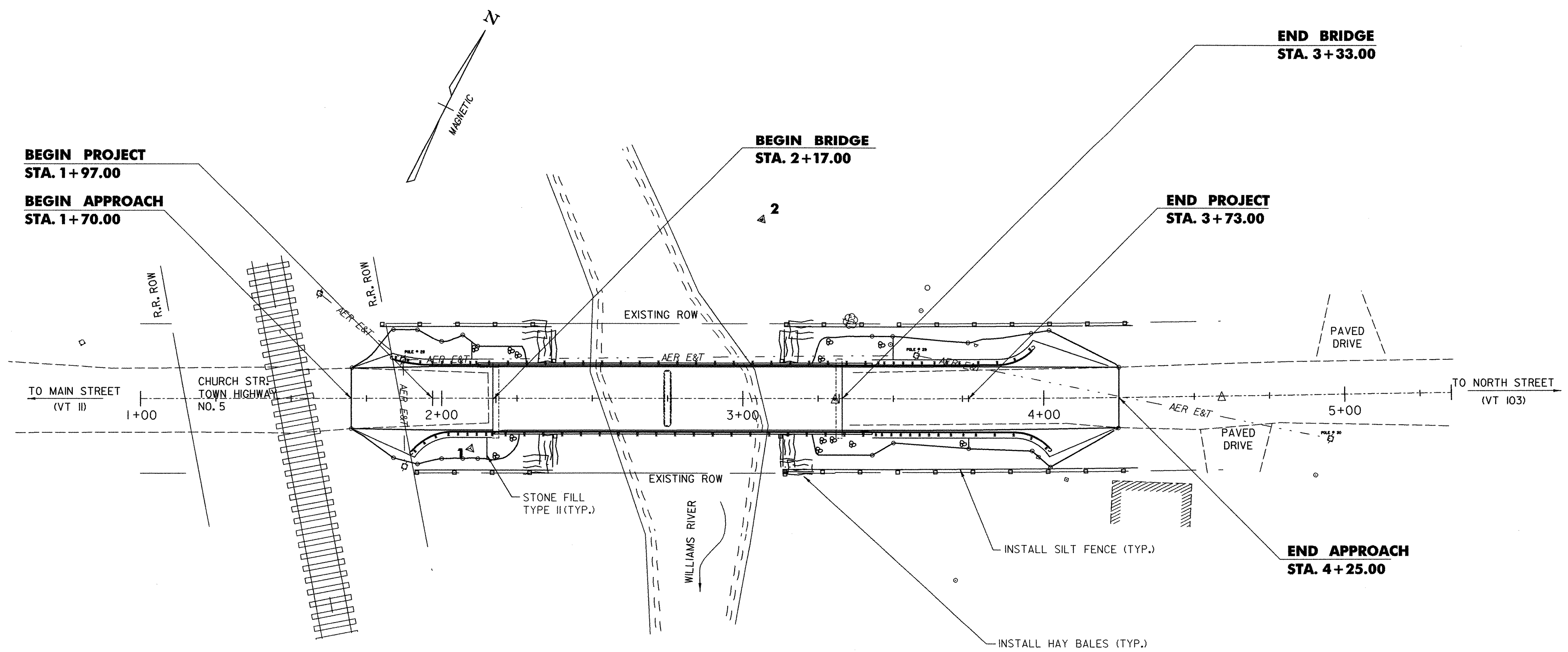
Town Of	CHESTER	Bridge No.	
Highway No.	TH 5	Log Sta.	
CHURCH STREET OVER WILLIAMS RIVER		Surv. Sta.	

<b>PLAN &amp; ELEVATION</b>			
Designed By	B. C. AUSTIN	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
		Bridge Design Supervisor	J. TUCKER
		Date	03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.O.C. Info. ...zj365pe8.dgn			
D & K DWG NO.	11351	Sheet	8 of 22

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02/03/2004



**EROSION CONTROL NOTES**

1. THE CONTRACTOR SHALL INSTALL SILT FENCE AND HAY BALES FOR EROSION CONTROL AS LOCATED ON THE PLANS, PRIOR TO CONSTRUCTION. ALL SUCH INSTALLATION SHALL BE WITHIN THE EXISTING R.O.W.
2. THE CONTRACTOR SHALL LOAM, SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS, EXCEPT ROADWAY AND SHOULDERS PRIOR TO THE COMPLETION OF THE PROJECT.
3. REFER TO STANDARD T-1 AND T-2 FOR ADDITIONAL DETAILS.

DATUM

VERTICAL	LOCAL
HORIZONTAL	LOCAL

**LEGEND**

EXISTING EDGE OF RIVER	---
EXISTING TRAVELED WAY	----
PROPOSED TRAVELED WAY	----
ROW	----
GUARD RAIL	○
CULVERT	—
UTILITY POLE	□
TELEPHONE POLE	◇
TREES	⊗
TREE LINE	~~~~~
SILT FENCE	—

REVISIONS		
NO.	DESCRIPTION	BY & DATE

**DuBois & King INC.**

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**STATE OF VERMONT AGENCY OF TRANSPORTATION**

Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
CHURCH STREET OVER WILLIAMS RIVER		Surv. Sta.	-
<b>EROSION CONTROL SHEET</b>			
Designed By	B. C. AUSTIN	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
PROJECT		Bridge Design Supervisor	J. TUCKER
CHESTER		Date	03/01
PROJECT NO.		BHO 1442 (32)	
I.G.C. Info. ...zj365EC9.dgn			
D & K DWG NO.	11352	Sheet 9 of 22	

**GENERAL NOTES:**

- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, DATED 2001, AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS.
- DIMENSIONS, ANGLES, BEARINGS, AND ELEVATIONS OF THE EXISTING BRIDGE SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND LIMITED FIELD INVESTIGATION AND MAY NOT ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING STRUCTURE COMPONENTS IMPACTED BY THE NEW WORK TO ASSURE CONSISTENCY WITH THE PROPOSED MODIFICATIONS. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ADVANCING THE WORK.
- WORKING DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
- ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL, AND ARE GIVEN AT 68 DEGREES FAHRENHEIT, UNLESS NOTED OTHERWISE.
- SEE PIER DETAILS SHEET 19 FOR CONCRETE REPAIR NOTES.

**CONSTRUCTION NOTES:**

- THE CONTRACTOR SHALL USE CAUTION WHEN WORKING AROUND UNDERGROUND AND OVERHEAD UTILITIES.
- THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL DOCUMENTS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
- A THOROUGH INSPECTION SHALL BE MADE OF SUBSTRUCTURE AREAS. AREAS OF CONCRETE FOUND TO BE SPALLED, DELAMINATED OR OTHERWISE UNSOUND SHALL BE REPAIRED. THE CONTRACTOR SHALL SUPPLY ANY MATERIALS REQUIRED FOR THE INSPECTION. ALL COSTS OF INSPECTION SHALL BE SUBSIDIARY TO ITEM 635.10, MOBILIZATION.
- NO BACKFILL SHALL BE PLACED AGAINST ANY STRUCTURAL ELEMENTS UNTIL THE ENGINEER HAS APPROVED THIS WORK.
- THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC EROSION/SEDIMENT CONTROL PLAN WITH A SCHEDULE OF EVENTS. THIS WORK SHALL BE PAID FOR UNDER ITEM 652.10, "EROSION AND SEDIMENT CONTROL PLAN"
- CONCRETE AND ALL OTHER CONSTRUCTION MATERIALS ARE PROHIBITED FROM BEING DISCHARGED INTO THE WATERS OF THE STATE.
- THE POST LENGTHS FOR RAILING TRANSITION POSTS AND POST #1 INCLUDED WITHIN THE BRIDGE RAIL PAY LIMITS, AND STEEL BEAM GUARDRAIL SHALL BE MODIFIED FROM 6 FEET TO 8 FEET. ALL COSTS SHALL BE INCLUDED IN ITEM 525.43, BRIDGE RAILING - HDSB/ FASCIA MOUNTED HAND RAIL (MOD. - STEEL TUBING) OR ITEM 621.21, HEAVY DUTY STEEL BEAM GUARDRAIL (MOD. - W/8" POSTS).

**REMOVAL NOTES:**

- ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE SHALL INCLUDE THE REMOVAL OF:
  - EXISTING BRIDGE RAILING, CONCRETE CURBS AND POSTS, CONCRETE BRIDGE DECK AND CURTAIN WALLS.
  - STRUCTURAL STEEL BEAMS AND DIAPHRAGMS.
  - BEARING DEVICES.
  - PORTIONS OF EXISTING WINGWALLS AND PIER AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
  - ERECTION, MAINTENANCE, AND REMOVAL OF TEMPORARY STRUCTURES TO PREVENT DEBRIS FROM FALLING INTO THE WATERWAY.
- REMOVAL OF EXISTING BRIDGE PAVEMENT SHALL BE PAID AS ITEM 529.10, REMOVAL OF BRIDGE PAVEMENT.
- LIMITS OF WINGWALL AND PIER REMOVAL ARE APPROXIMATE. THE ENGINEER SHALL ESTABLISH ACTUAL LIMITS AFTER A COOPERATIVE INSPECTION BY THE CONTRACTOR AND THE ENGINEER. EXISTING ELEVATIONS SHALL BE FIELD VERIFIED TO ENSURE THAT THE REMOVAL LIMITS ARE ADEQUATE TO OBTAIN THE REQUIRED DIMENSIONS AND ELEVATIONS OF THE NEW CONSTRUCTION.
- SAWCUTS SHALL BE ONE-INCH DEEP ALONG ALL EXPOSED REMOVAL LINES WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
- EXISTING REINFORCING STEEL EXPOSED DURING REMOVAL OPERATIONS, WITHIN THE LIMITS OF THE NEW MASONRY, SHALL BE RETAINED AND INCORPORATED INTO THE NEW MASONRY. EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE SAND BLASTED CLEAN OF ALL CONCRETE, DIRT, DETRIMENTAL SCALE, PAINT, OIL, AND OTHER FOREIGN SUBSTANCES. ALL COSTS SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
- AFTER PIER CONCRETE REMOVAL, THE EXISTING REINFORCING STEEL TO BE RETAINED SHALL BE INSPECTED BY THE RESIDENT ENGINEER. DEPENDING UPON THE EXTENT OF CORROSION OR DAMAGE TO THE EXISTING REINFORCING STEEL, THE RESIDENT ENGINEER MAY ELECT TO INCREASE THE NUMBER OF DRILL AND GROUT BARS IF APPROXIMATELY 20 PERCENT OR MORE AREA LOSS HAS OCCURRED. COSTS TO INSPECT THE REINFORCING STEEL SHALL BE INCLUDED IN ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.
- ADDITIONAL DRILLING AND GROUTING, IF REQUIRED, SHALL BE PAID AT THE UNIT BID PRICE OF ITEM 507.17, EPOXY COATED REINFORCING STEEL AND ITEM 507.16, DRILLING AND GROUTING DOWELS.
- THE STRUCTURAL STEEL BEAMS AND DIAPHRAGMS SHALL REMAIN THE PROPERTY OF THE TOWN OF CHESTER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE TOWN OF CHESTER PRIOR TO THE REMOVAL OF THE STRUCTURAL STEEL FOR THE PROPER PROCEDURE IN SALVAGING THE BEAMS.

**CONCRETE NOTES:**

- CONCRETE PAYMENT AND CLASSIFICATION SHALL BE AS FOLLOWS:  
 ITEM 501.33, CONCRETE, HIGH PERFORMANCE CLASS A; DECK, CURTAIN WALLS AND CURB  
 ITEM 501.34, CONCRETE, HIGH PERFORMANCE CLASS B; WING WALLS AND ABUTMENT AND PIER CAPS
- ITEM 514.10, WATER REPELLENT, SHALL BE APPLIED TO ALL EXPOSED CONCRETE ON BRIDGE SUPERSTRUCTURE EXCEPT THE BOTTOM OF THE DECK BETWEEN THE DRIP NOTCHES. WATER REPELLENT SHALL ALSO BE APPLIED TO THE EXPOSED CONCRETE ON THE NEW AND EXISTING SUBSTRUCTURES.

- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1 INCH BY 1 INCH, UNLESS OTHERWISE NOTED. A ONE-HALF INCH RADIUS SHALL BE USED ON THE TOP INSIDE CORNER OF THE CURBS.
- JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT UNLESS OTHERWISE INDICATED. ANY UPWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE BELOW THE JOINT.
- SEE DECK DETAILS SHEET 11 FOR DECK POUR SEQUENCE NOTES.

**BEARING NOTES:**

- BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTION 531 AND 731.
- PREFORMED BEARING PAD DESIGN CRITERIA:
  - ALLOWABLE BEARING PRESSURE ON CONCRETE = 1000 PSI
  - MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS
  - HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 6% OF THE VERTICAL LOAD
  - DESIGN LOAD PER BEARING: ABUTMENTS = 90 KIPS & PIER = 150 KIPS
- SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL INCLUDE WELDING AND BONDING PROCEDURES.
- ALL STEEL FOR SOLE PLATES AND WASHERS SHALL BE AASHTO M 270/M270, GRADE 36. BOLTS AND NUTS SHALL BE PER ASTM A 449. ALL HARDWARE SHALL BE GALVANIZED PER THE SPECIFICATION AASHTO M 118/M 118.
- DRILL AND SET ANCHOR BOLTS WITH A MINIMUM OF 15 INCHES EMBEDDED INTO CONCRETE. HOLES FOR ANCHOR BOLTS SHALL BE 3 INCHES IN DIAMETER, IF ANCHOR BOLTS ARE TO BE GROUTED WITH MORTAR, TYPE IV AND 2-1/2 INCHES IN DIAMETER IF ANCHOR BOLTS ARE TO BE INSTALLED USING EPOXY MORTAR PER STANDARD SPECIFICATION 530. ALL COSTS SHALL BE INCLUDED IN ITEM 531.10, BEARING DEVICE ASSEMBLY.
- ANCHOR BOLTS SHALL BE SWEDGED WITH 4 INCHES OF THREAD. EXPANSION BEARING NUTS ARE TO BE DRAWN UP FINGER TIGHT AND THEN BACKED OFF ONE-EIGHTH INCH. THREADS SHALL BE BURRED ABOVE NUT TO PREVENT NUT REMOVAL.
- BLANK
- EXISTING ANCHOR BOLTS THAT ARE NOT COVERED WITH A NEW BRIDGE SEAT CAP SHALL BE CUT ONE INCH MINIMUM BELOW EXISTING SUBSTRUCTURE SEATS, BLAST CLEANED AND FILLED WITH MORTAR TYPE IV. COSTS SHALL BE SUBSIDIARY TO ITEM 531.10, "BEARING DEVICE ASSEMBLY."

**STRUCTURAL STEEL NOTES:**

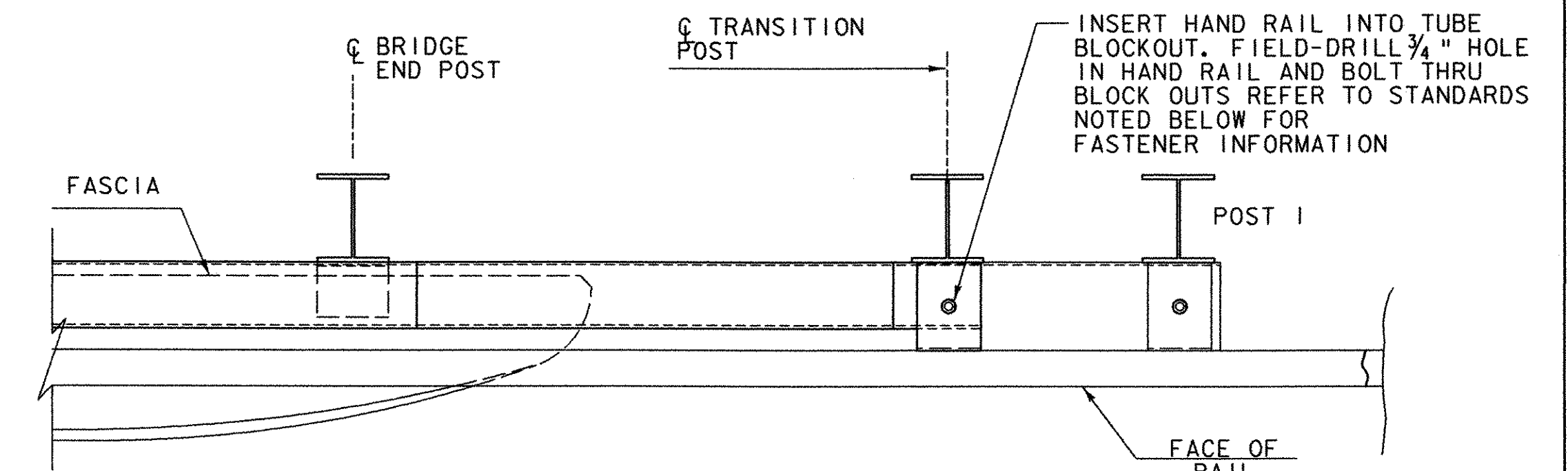
- ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50W UNLESS OTHERWISE NOTED.
- BLANK
- ALL BOLTED FIELD CONNECTIONS SHALL BE MADE WITH 7/8-INCH DIAMETER HIGH STRENGTH BOLTS IN 15/16-INCH DIAMETER HOLES UNLESS OTHERWISE NOTED.
- CONNECTIONS NOT DESIGNED SHALL BE DETAILED BY THE FABRICATOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL WELDS SHALL HAVE CORROSION RESISTANCE AND WEATHERING APPEARANCE AS SPECIFIED FOR WEATHERING STEEL.
- SHEAR STUD CONNECTORS SHALL BE FIELD WELDED USING AUTOMATICALLY TIMED STUD WELDING EQUIPMENT AND SHALL BE PAID AS ITEM 508.15, SHEAR CONNECTORS.
- AFTER THE SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF THE BEAM SHALL BE TAKEN, AS DIRECTED BY THE ENGINEER, FOR USE IN DETERMINING THE FINAL GRADE AND HAUNCH DEPTHS.
- ANY HOLES IN FASCIA BEAM WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BOLTS CONFORMING TO AASHTO M164 TYPE 3.
- THE ENDS OF THE BEAMS SHALL BE VERTICAL UNDER FULL DEAD LOAD DEFLECTION.

**TRAFFIC CONTROL NOTES:**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON PROJECT CONSTRUCTION SIGNING, OFF PROJECT DETOUR SIGNING, AND BARRICADES. THE COSTS FOR REQUIRED ON PROJECT CONSTRUCTION SIGNING AND BARRICADES OTHER THAN TEMPORARY TRAFFIC BARRIERS SHALL BE INCIDENTAL TO OTHER ITEMS. THE COSTS FOR DETOUR SIGNING AND NECESSARY SIGN POSTS SHALL BE INCLUDED IN ITEM 641.10, "TRAFFIC CONTROL." THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY CONCRETE TRAFFIC BARRIERS DURING THE CONSTRUCTION PERIOD TO PREVENT VEHICLES FROM DRIVING OFF THE BRIDGE OR APPROACHES. ALL COSTS SHALL BE INCLUDED IN ITEM 621.90, "TEMPORARY TRAFFIC BARRIER."
- ALL CONSTRUCTION AND DETOUR SIGNING AND SIGN POSTS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVES AND SIDE ROADS DURING CONSTRUCTION. COSTS SHALL BE INCLUDED IN ITEM 641.10, "TRAFFIC CONTROL."
- ALL DETOUR SIGNS SHALL BE ORANGE WITH BLACK LETTERING AND BLACK BORDERS.
- ALL DETAILS NOT SPECIFIED SHALL BE IN ACCORDANCE WITH THE MUTCD AND VAOT E SERIES STANDARDS.

**REINFORCING STEEL NOTES:**

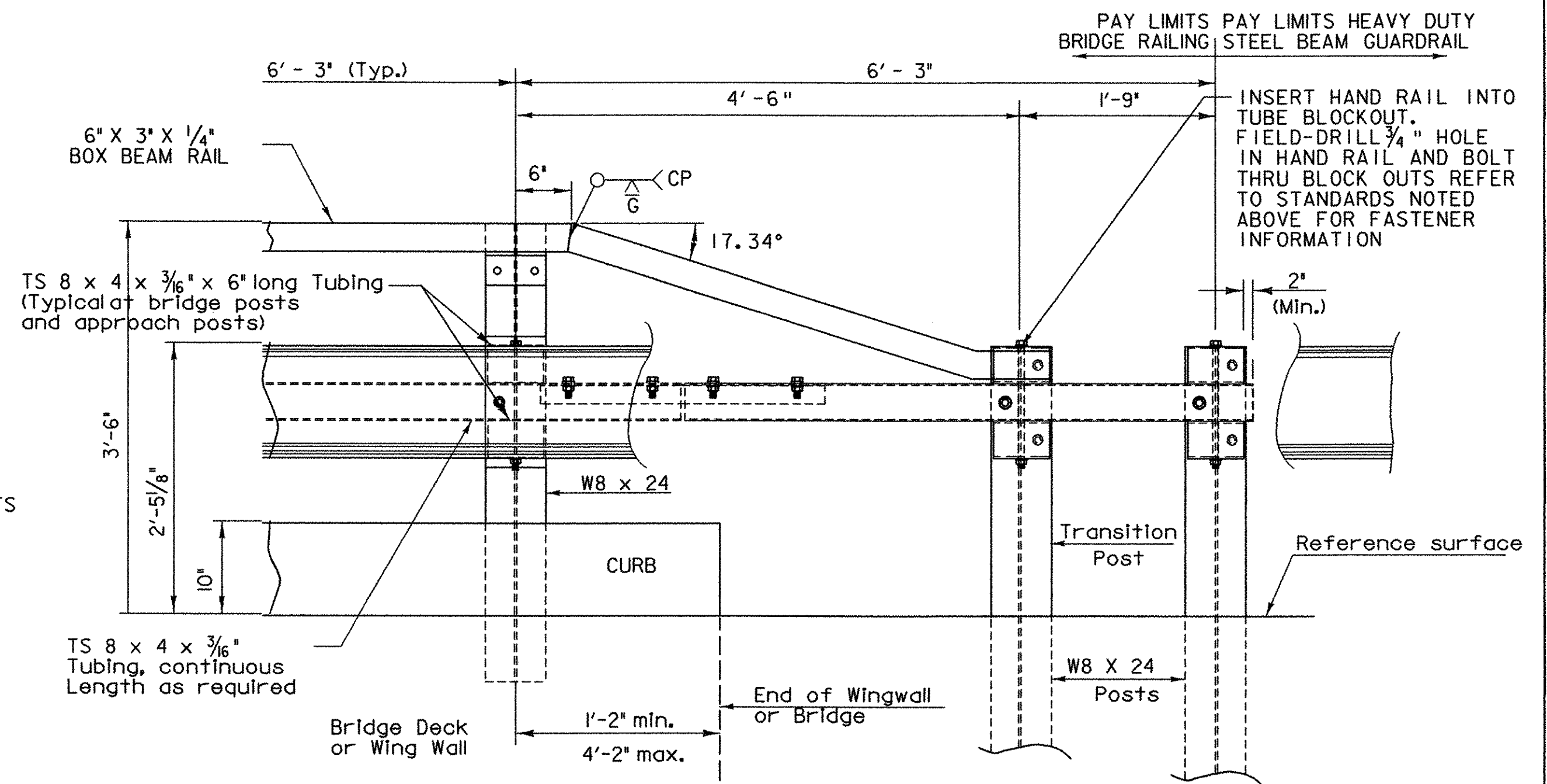
- REINFORCING STEEL IN THE DECK, CURTAIN WALL, AND BRUSH CURBS SHALL BE EPOXY COATED.
- EPOXY REINFORCING STEEL TO BE CUT IN THE FIELD SHALL BE SAW CUT AND THE EXPOSED ENDS TREATED. NO FLAME CUTTING SHALL BE PERMITTED.
- MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:  
 ALONG BACK FACES OF WALLS AGAINST EARTH: 2.0 INCHES  
 ALONG TOP SURFACE OF DECK SLAB: 2.5 INCHES  
 ALONG BOTTOM SURFACE OF DECK SLAB: 1.5 INCHES  
 ELSEWHERE UNLESS OTHERWISE INDICATED: 3.0 INCHES
- REINFORCEMENT STEEL PLACEMENT TOLERANCES SHALL BE:  
 SPACING: +/- 1"  
 CLEARANCE: +/- 1/4"
- DRILLING AND GROUTING DOWELS SHALL BE PAID AS ITEM 507.16, DRILLING AND GROUTING DOWELS. ALL DRILLED HOLES SHALL HAVE A MINIMUM OF 6-INCH CLEAR COVER.
- THE WELDED WIRE STEEL FABRIC FOR THE NEW CAP ON ABUTMENT NO. 1 SHALL BE PAID FOR INCIDENTAL TO ITEM 501.34, "CONCRETE, HIGH PERFORMANCE CLASS B."



NOTE:

- SEE VAOT STANDARD SHEET SB-R6-86 AND SB-R7-90 FOR ADDITIONAL DETAILS.
- FIELD DRILLED HOLES IN HAND RAIL SHALL BE GALVANIZED PER ASTM A 760.

**RAIL PLAN**

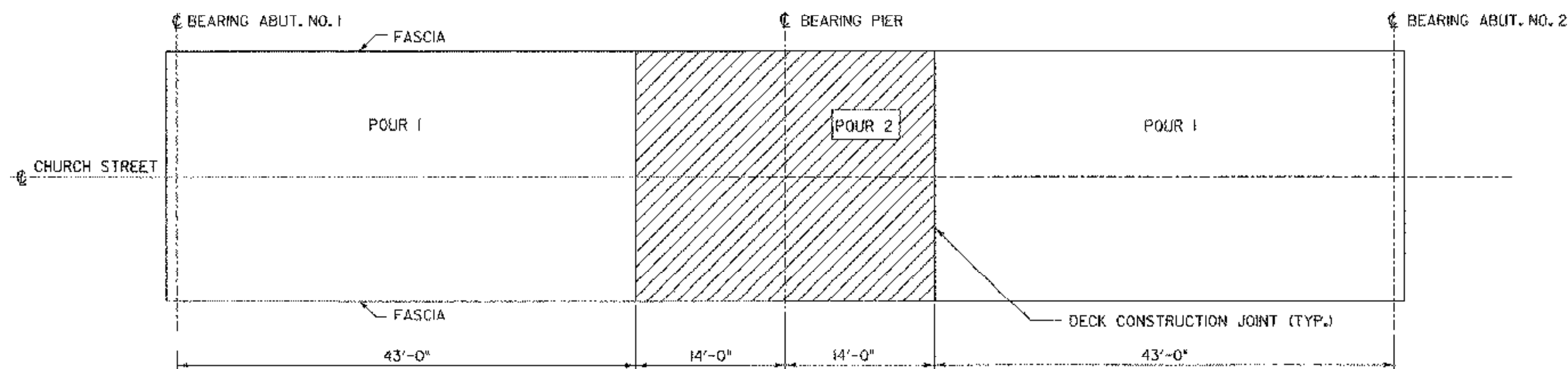


**RAIL ELEVATION**

REVISIONS			STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	Town Of	Bridge No.
1	MODIFIED NOTES TO REFLECT REVISIONS TO PLANS	APG 2/3/04	CHESTER	11
			Highway No.	Log Sta.
			TH 5	Surv. Sta.
CHURCH STREET OVER WILLIAMS RIVER				
CONSTRUCTION NOTES				
Designed By		B. C. AUSTIN		Drawn By
Checked By		Date		Bridge Design Supervisor
J. TUCKER		03/01		J. TUCKER Date 03/01
PROJECT			PROJECT NO.	
CHESTER			BHO 1442 (32)	
I.G.C. Info.			...zj365gn10.dgn	
D & K DWG NO.			I353 Sheet 10 of 22	

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 engineering planning management development

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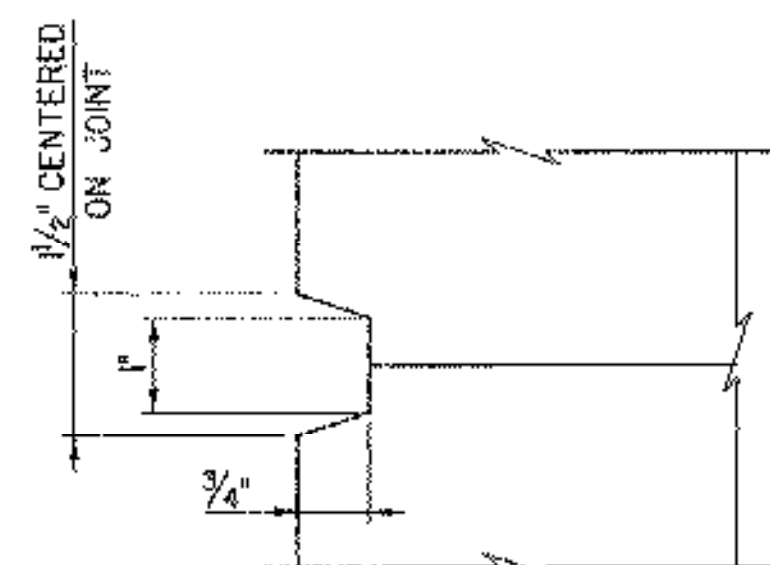


**DECK POUR SEQUENCE NOTES:**

1. EACH CONCRETE DECK POUR SHALL BE PLACED CONTINUOUSLY WITHIN ONE EIGHT HOUR WORKING DAY. THERE SHALL BE A MINIMUM DELAY PERIOD OF 96 HOURS AFTER COMPLETION OF EACH POUR BEFORE BEGINNING ANOTHER POUR. INDIVIDUAL POUR NUMBERS AS SHOWN MAY BE COMBINED INTO A SINGLE POUR IF APPROVED BY THE ENGINEER.

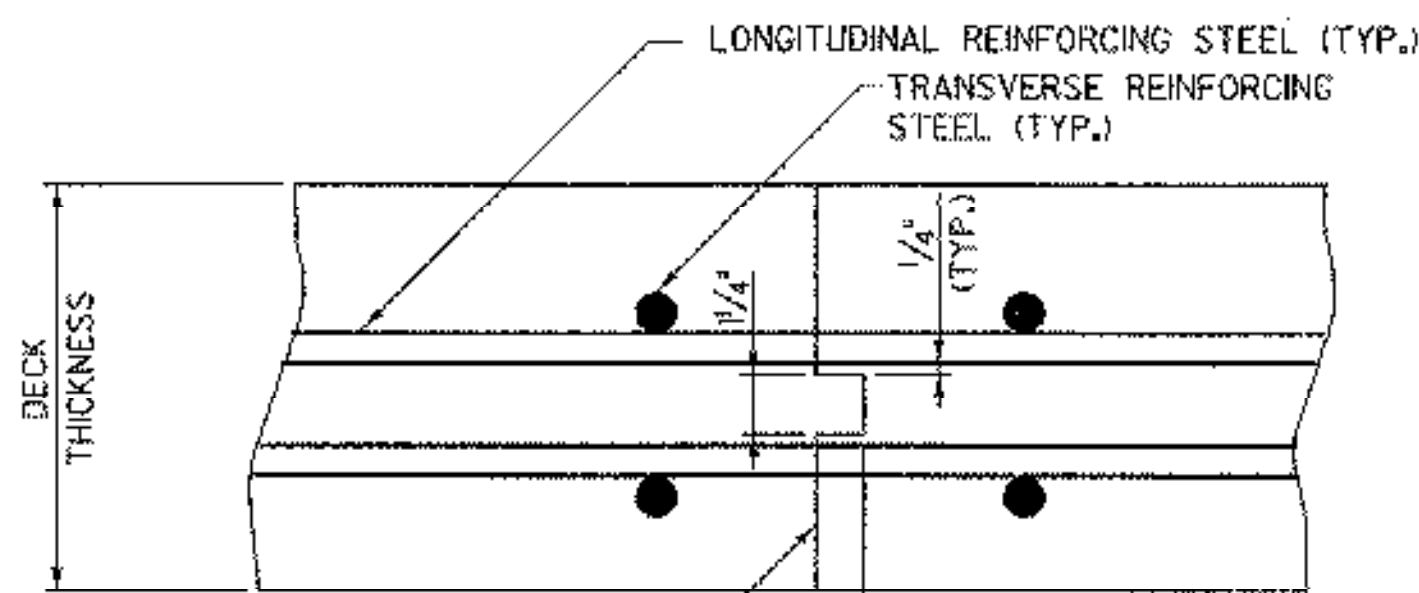
**DECK POUR SEQUENCE**

NTS



**SCORE MARK DETAIL**

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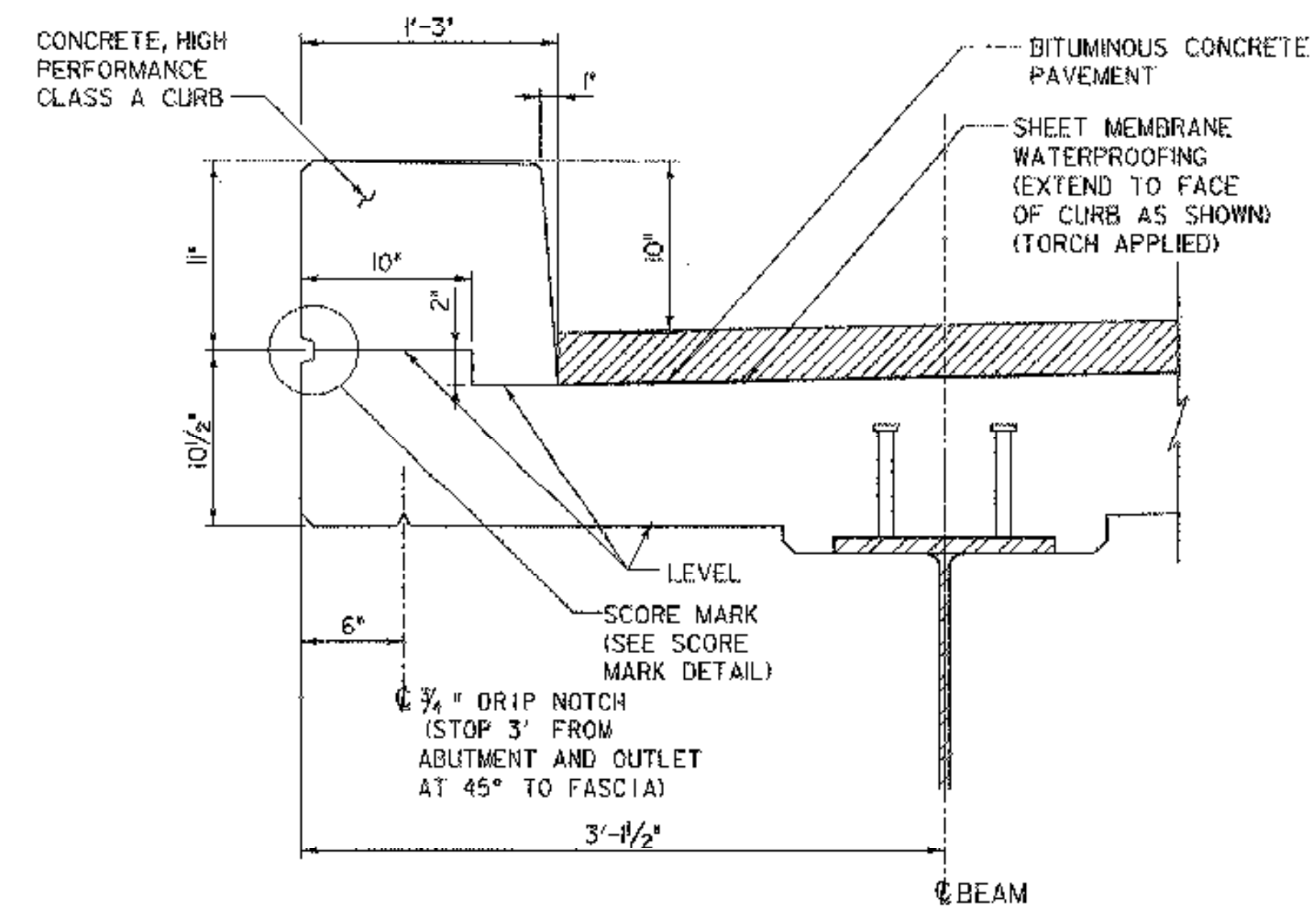
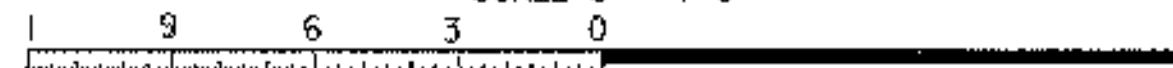


APPLY EPOXY BONDING COMPOUND BEFORE PLACING NEW CONCRETE. COST TO BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.

**TRANSVERSE DECK CONSTRUCTION JOINT DETAIL**

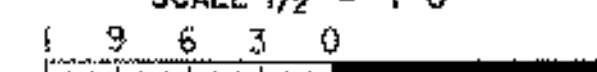
**CONSTRUCTION JOINT DETAIL**

SCALE 3" = 1'-0"

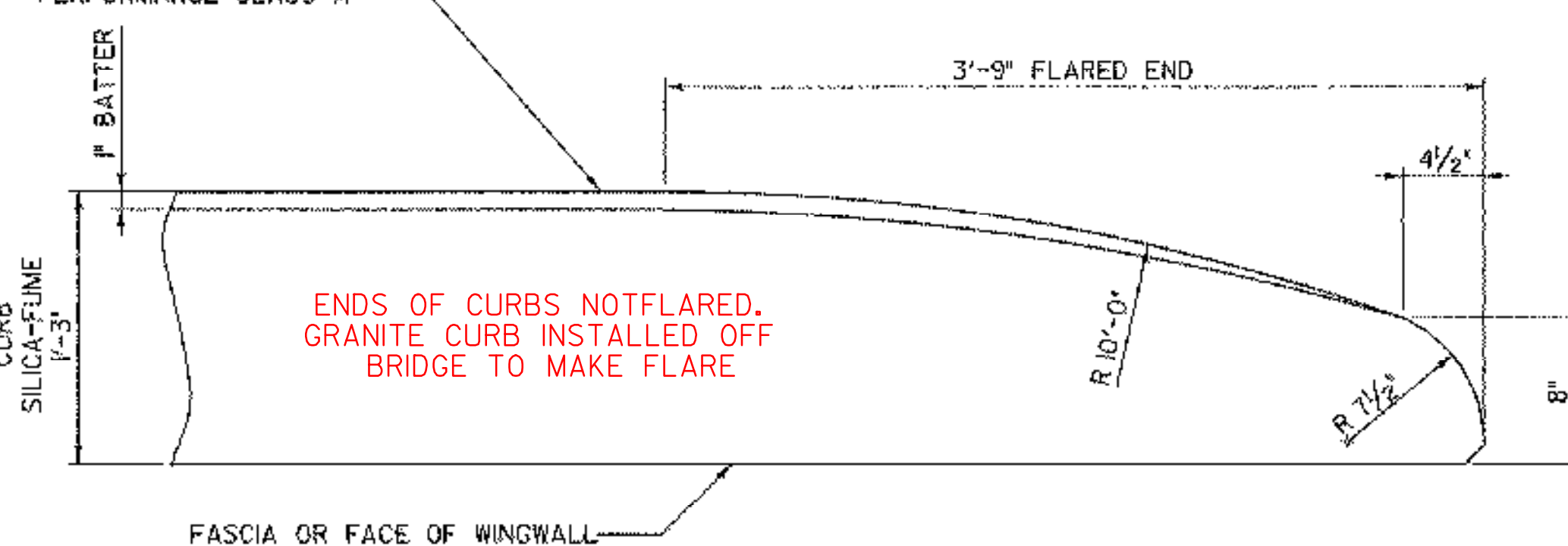


**TYPICAL CURB DETAIL**

SCALE 1/2" = 1'-0"



FACE OF CURB CONCRETE, HIGH PERFORMANCE CLASS A

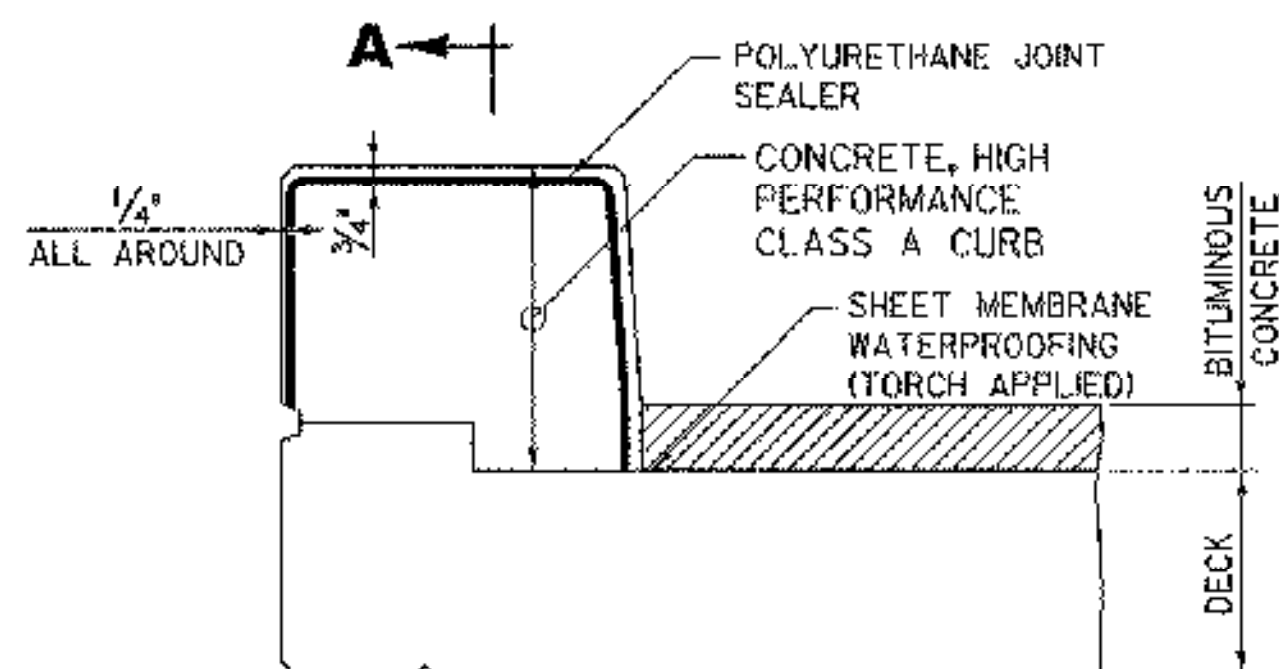


**FLARED END DETAIL FOR 1'-3" CURB**

CURB REINFORCING STIRRUP BARS SHALL BE TURNED AS REQUIRED TO FIT FLARED ENDS.

**NOTES:**

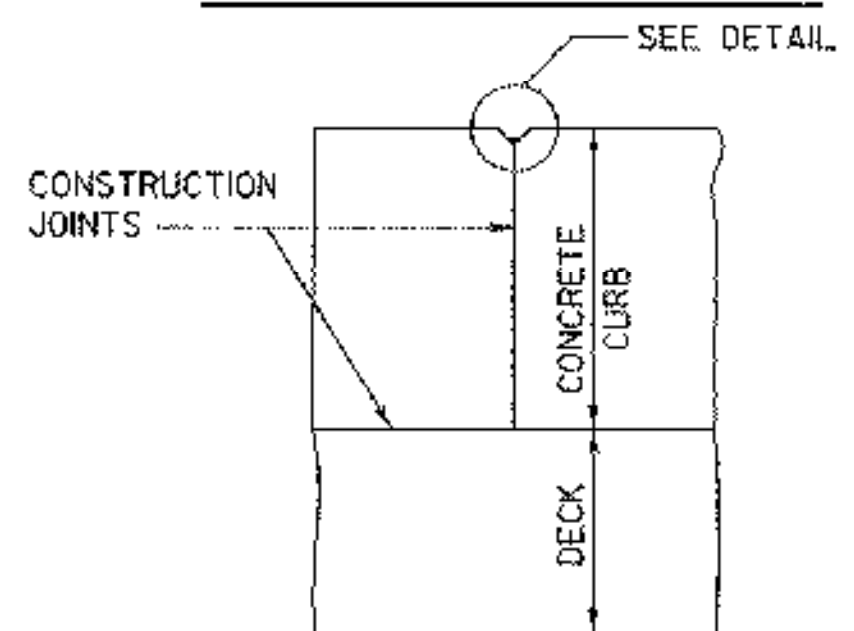
1. SEE STANDARD SB-R6-82, SB-R7-90 AND SHEET 10 FOR BRIDGE RAILING DETAILS.
2. BLAST CLEAN 3 FEET FROM FACE OF CURB AND 3 INCHES UP CURB FACE PRIOR TO PLACING MEMBRANE.



**TYPICAL SECTION**

**CURB CONSTRUCTION JOINT NOTES:**

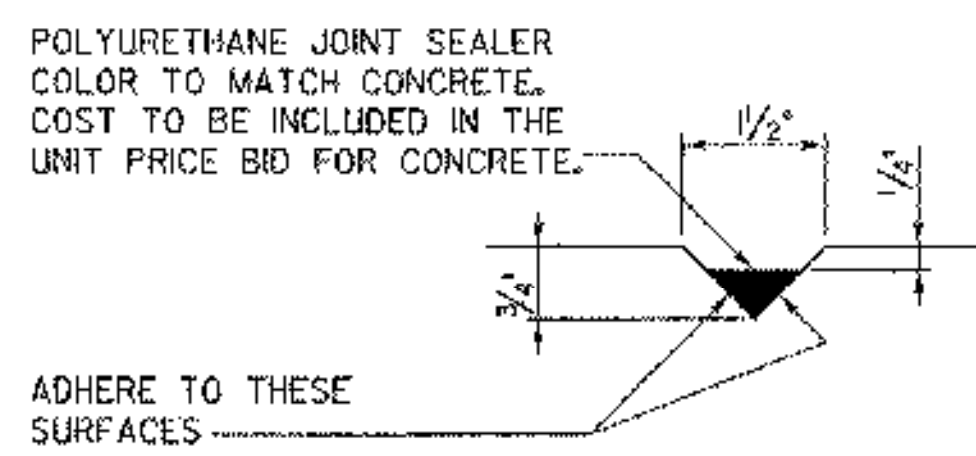
1. POLYURETHANE MEMBRANE AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SHEET MEMBRANE WATERPROOFING.
2. JOINTS SHALL BE A SPACED MAXIMUM OF 15'-0" CENTER TO CENTER AND SHALL BE 1'-6" MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
3. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.



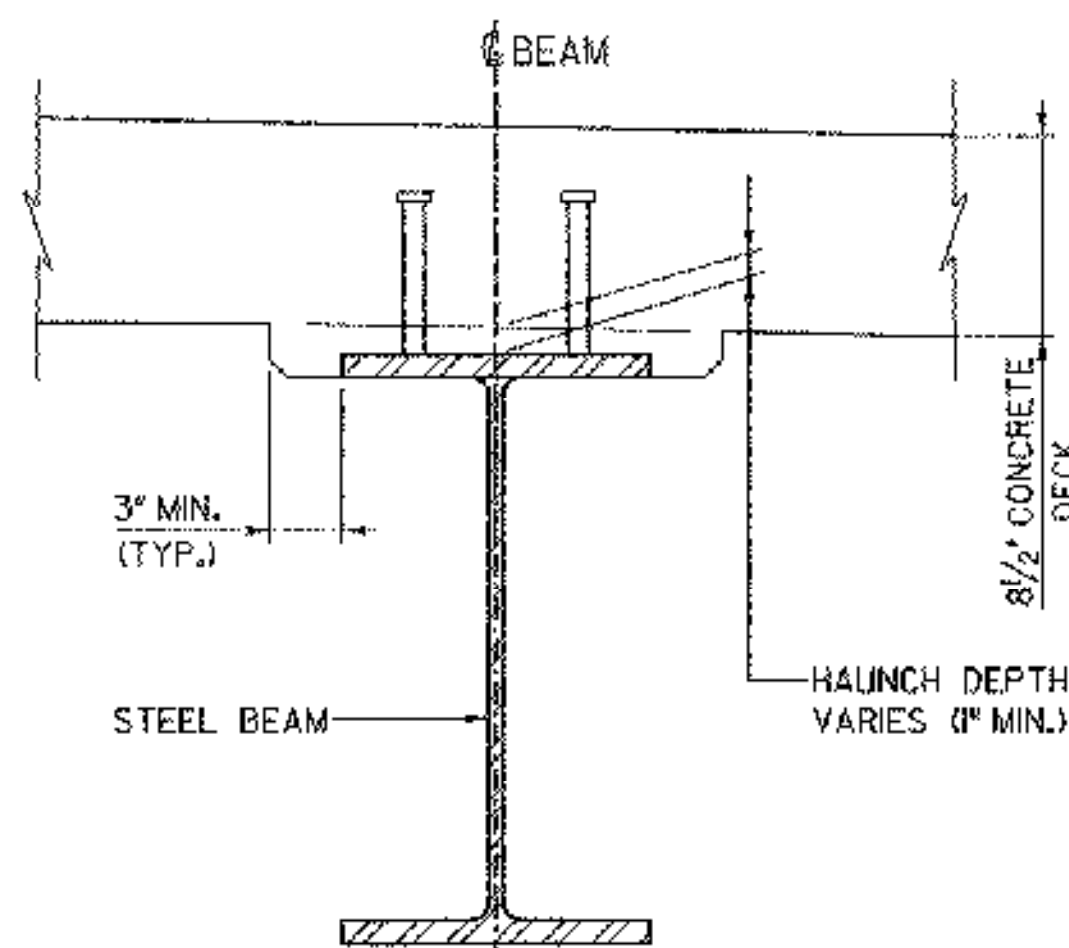
**SECTION A-A**

**CONCRETE CURB CONSTRUCTION JOINT**

NOT TO SCALE

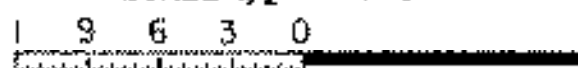


**DETAIL 1**

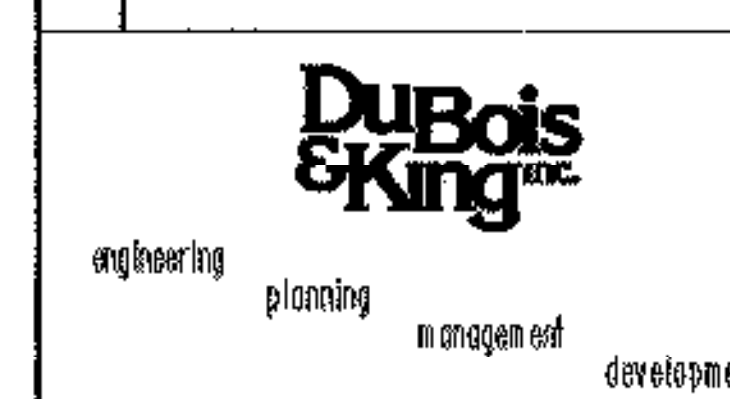


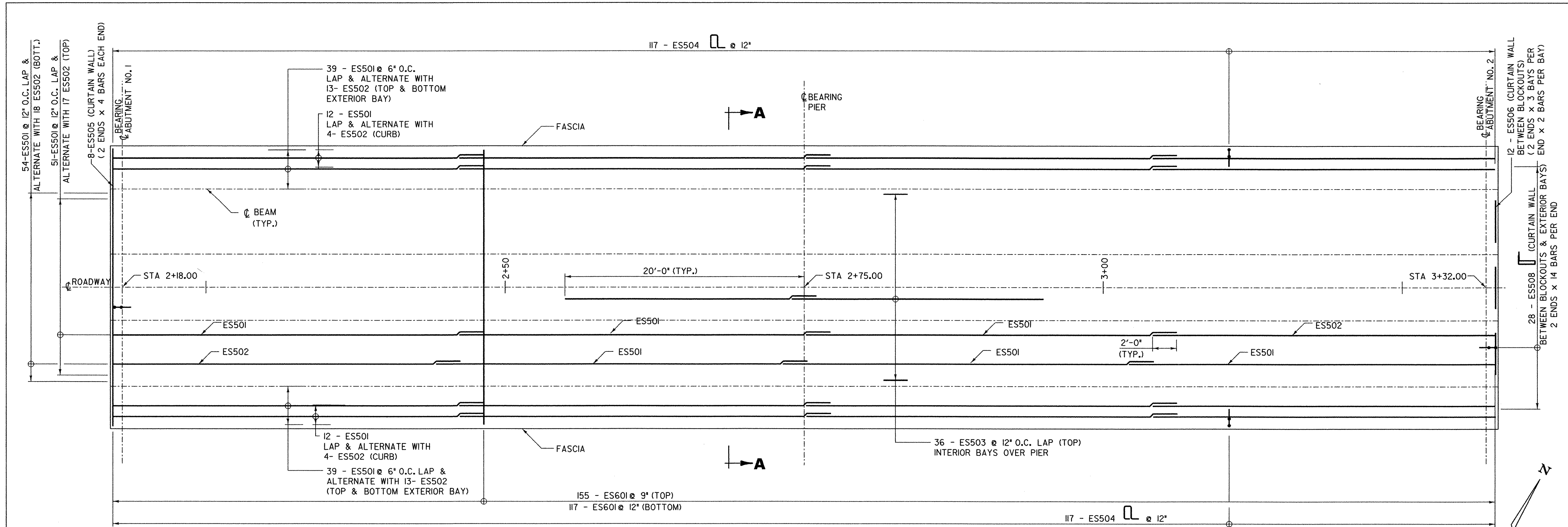
**HAUNCH DETAIL**

SCALE 1/2" = 1'-0"

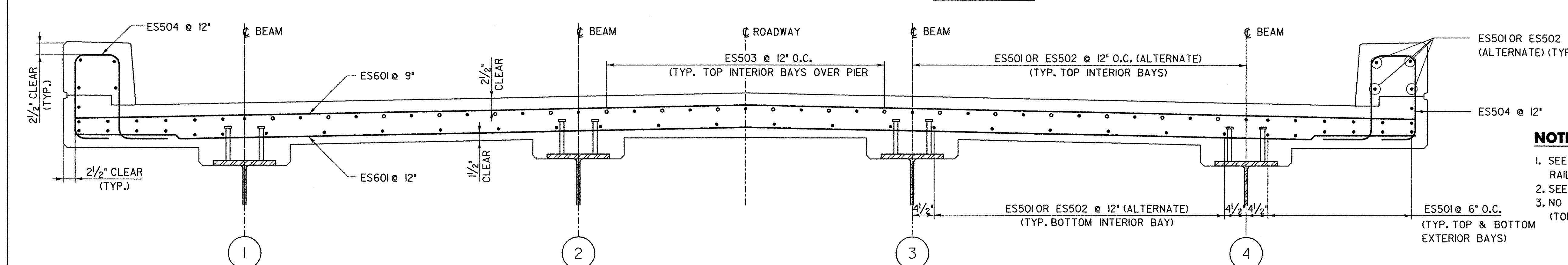


REVISIONS		STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	
		Town of CHESTER Bridge No. 11	
		Highway No. TH 5 Log Sta. -	
		Surv. Sta. -	
CHURCH STREET OVER WILLIAMS RIVER			
<b>DECK DETAILS</b>			
Designed By B. C. AUSTIN		Drawn By G. J. WOJCIECHOWSKI	
Checked By J. TUCKER		Bridge Design Supervisor	
Date 03/01		Date 03/01	
PROJECT CHESTER		PROJECT NO. BHO 1442 (32)	
I.G.C. Info. ...zj365dl.dgn			
D & K DWG NO. 11354		Sheet 11 of 22	





**PLAN**  
SCALE 1/4" = 1'-0"  
0 2 4 6



**SECTION A-A**  
SCALE 1" = 1'-0"  
0 2 4 6

- NOTES:**
- SEE SHEET 10 AND STND. SB-R6-82 AND SB-R7-90 FOR BRIDGE RAILING DETAILS.
  - SEE SHEET 13 FOR CURTAIN WALL REINFORCEMENT DETAILS.
  - NO SPLICES FOR DECK TRANSVERSE REINFORCING STEEL (TOP AND BOTTOM) SHALL BE ALLOWED.

**KEY**

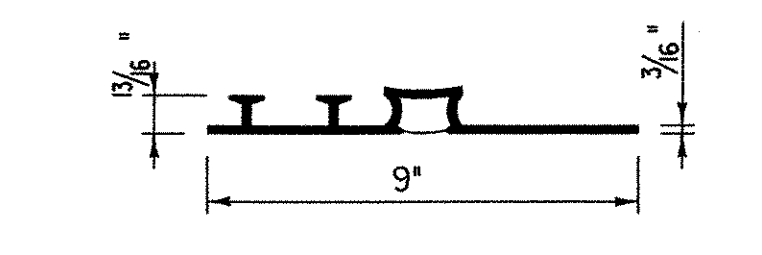
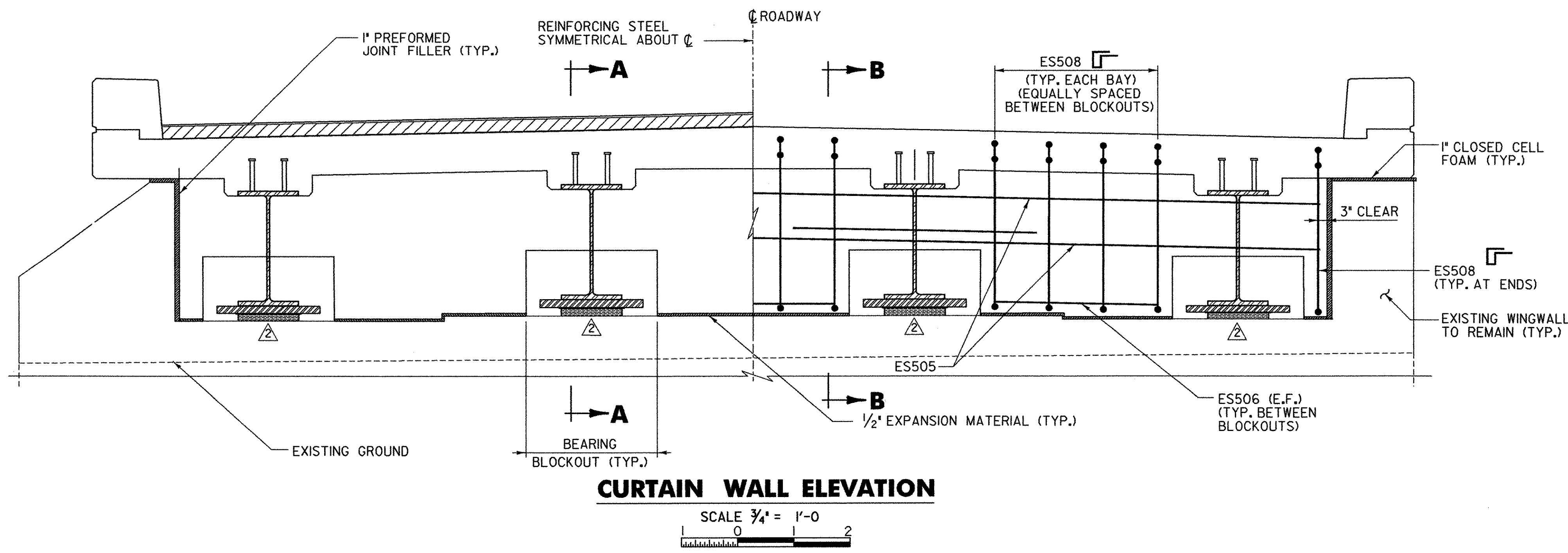
N.F. = NEAR FACE  
F.F. = FAR FACE  
E.F. = EACH FACE  
▲ = CUT TO FIT IN FIELD

REVISIONS		
NO.	DESCRIPTION	BY & DATE

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
		Surv. Sta.	-
CHURCH STREET OVER WILLIAMS RIVER			

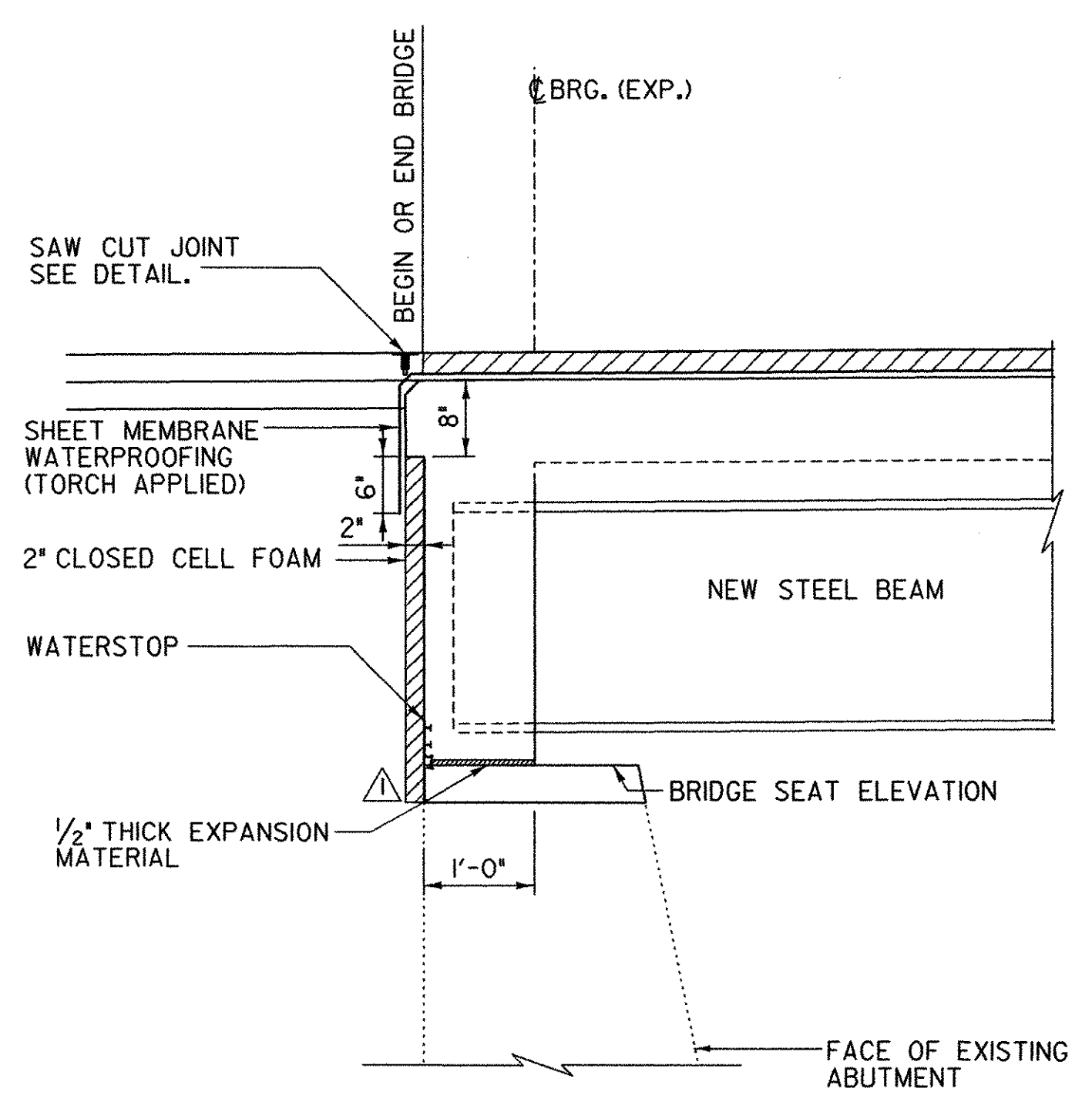
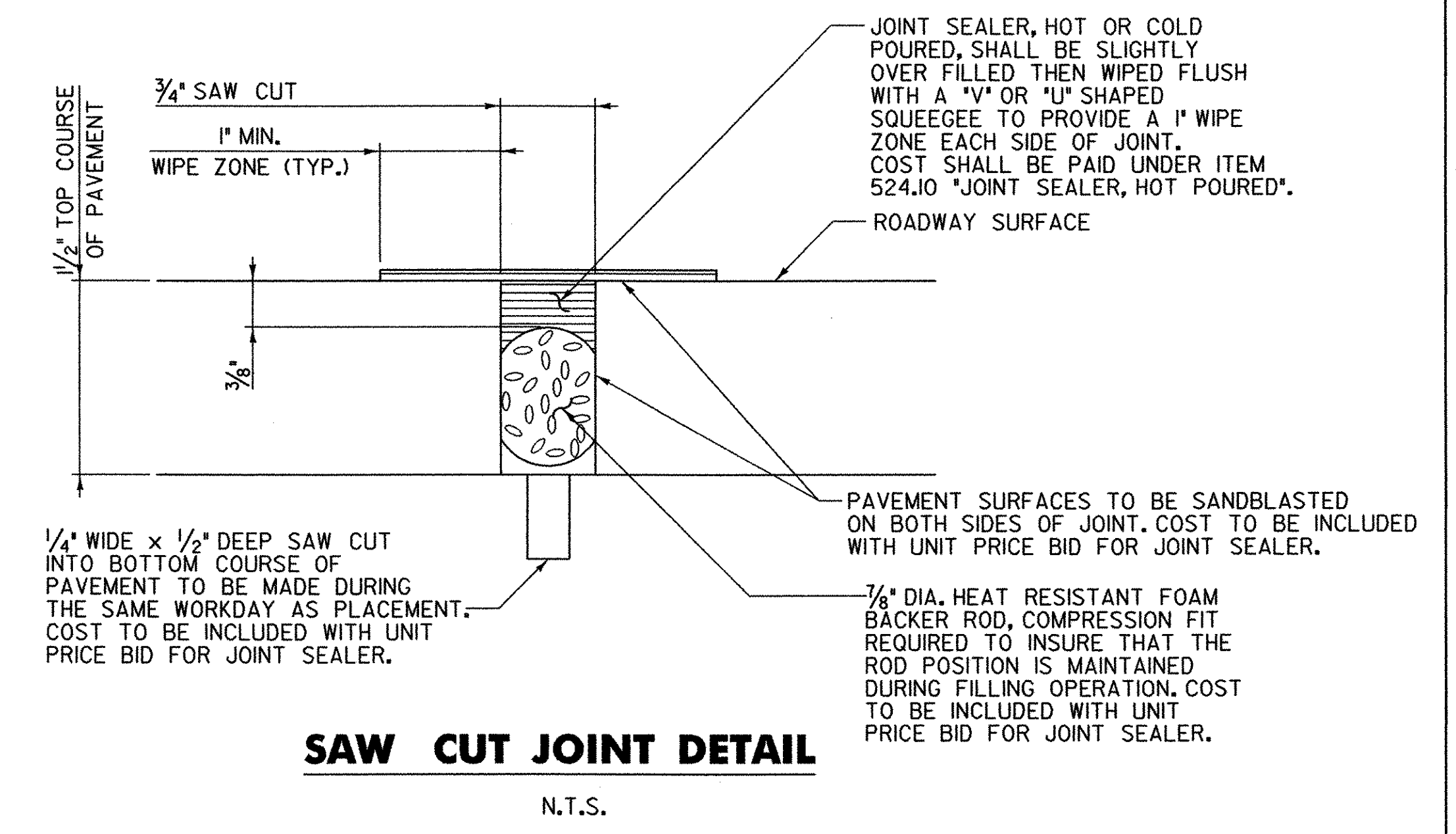
**DuBois & King**  
INC.  
engineering planning management development

<b>DECK REINFORCEMENT</b>			
Designed By	B. C. AUSTIN	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
		Bridge Design Supervisor	J. TUCKER
		Date	03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.G.C. Info.	...zj365dl2.dgn		

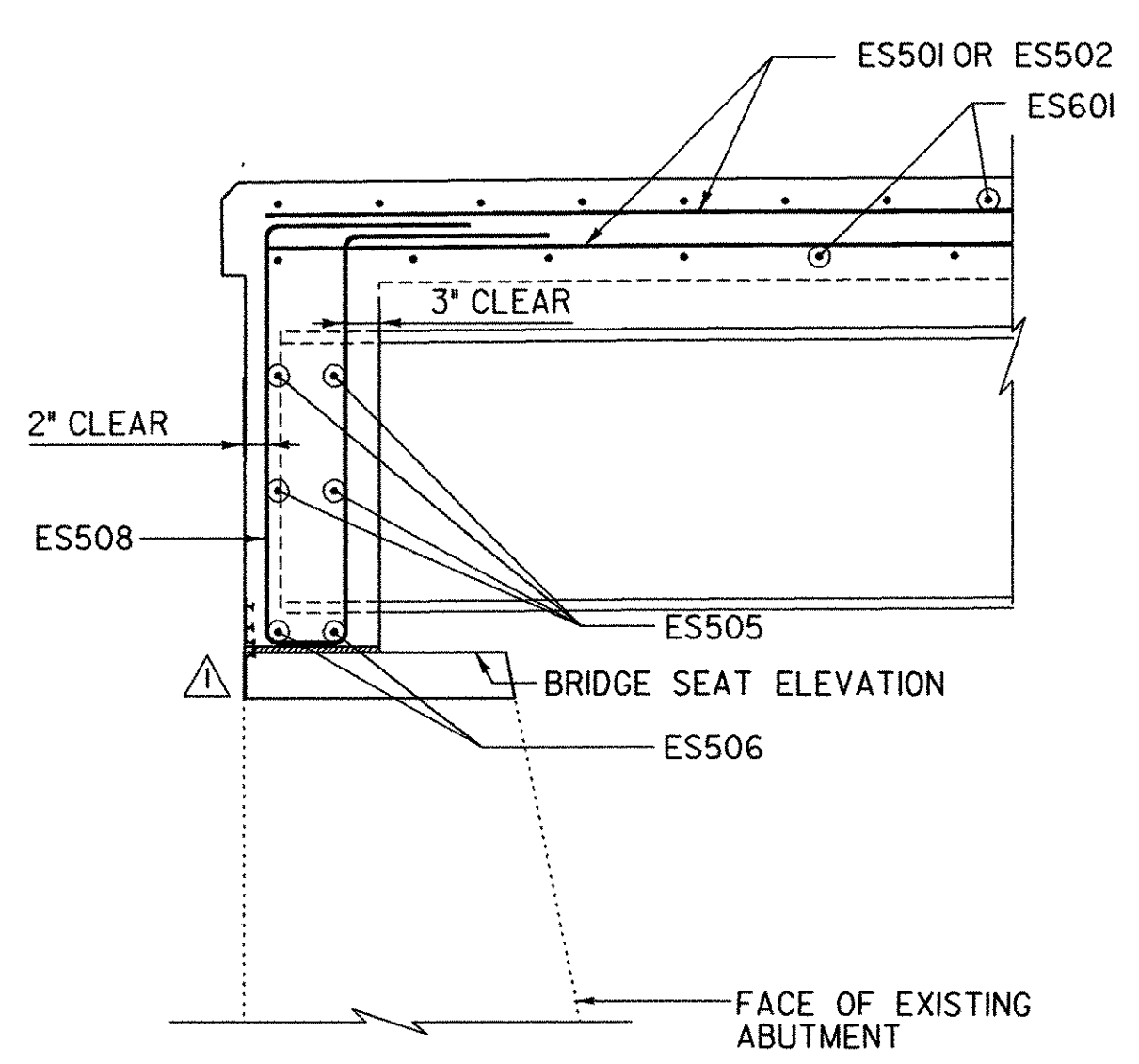


**P. V. C. WATERSTOP FOR EXPANSION END**

NOTE: FOR INSTALLATION, REMOVE BOTTOM HOOKS. THE COSTS FOR P. V. C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.



**SECTION A-A**  
SCALE 3/4" = 1'-0"



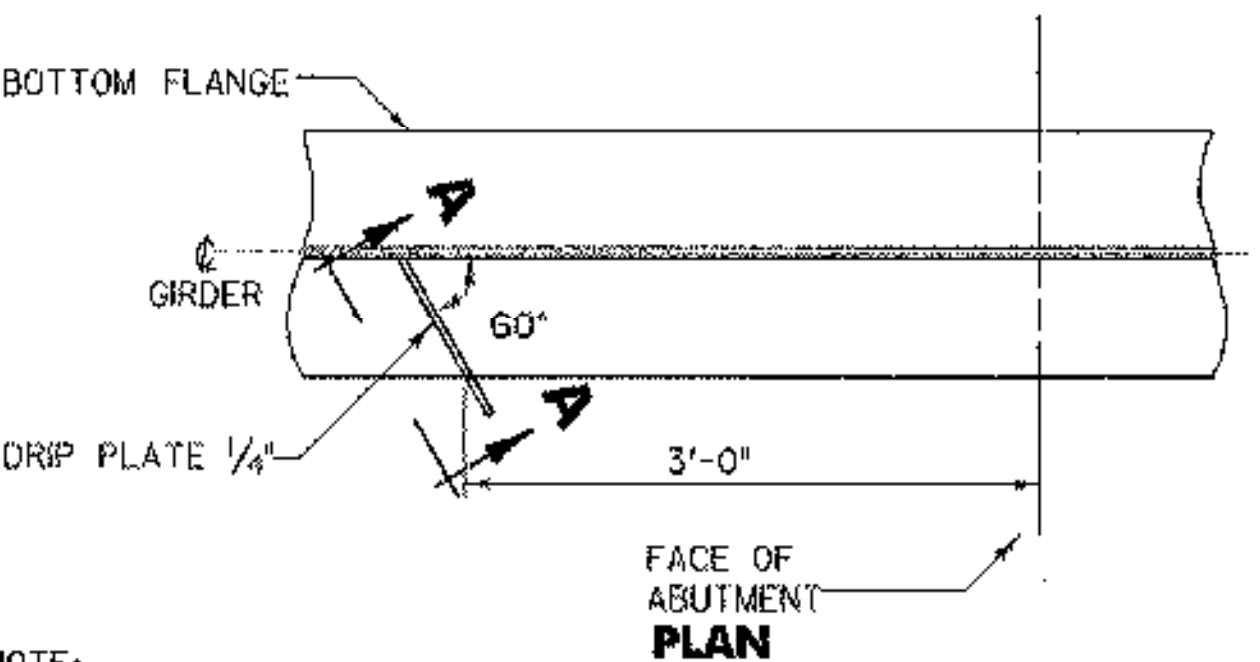
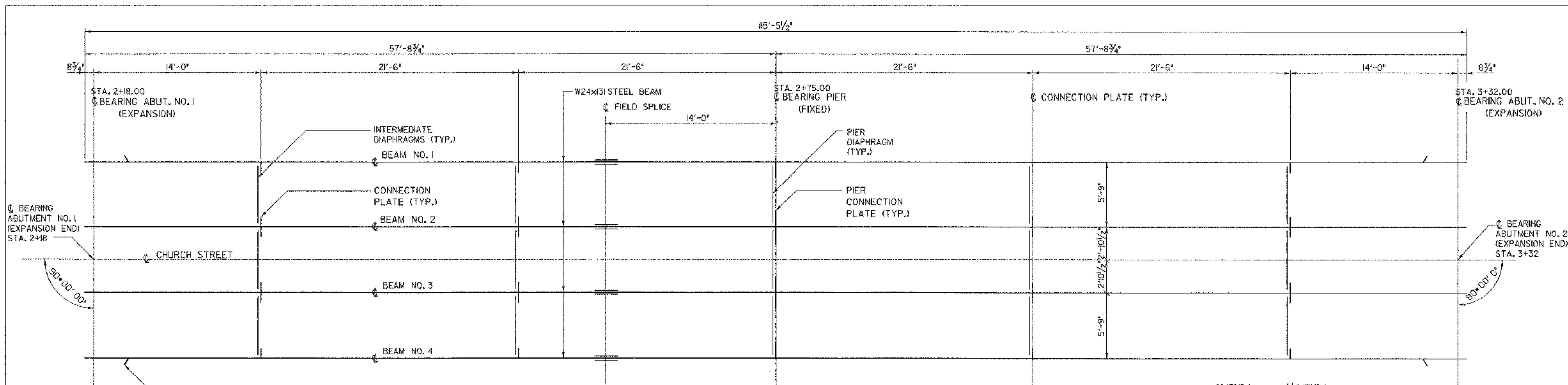
**SECTION B-B**  
SCALE 3/4" = 1'-0"

REVISIONS		
NO.	DESCRIPTION	BY & DATE
1	ADDED ABUTMENT CAP TO ABUTMENT SECTIONS	APG 2/3/04
2	REMOVED SHIM PLATE FROM BEARING ASSEMBLY IN CURTAIN WALL ELEVATION	APG 2/3/04

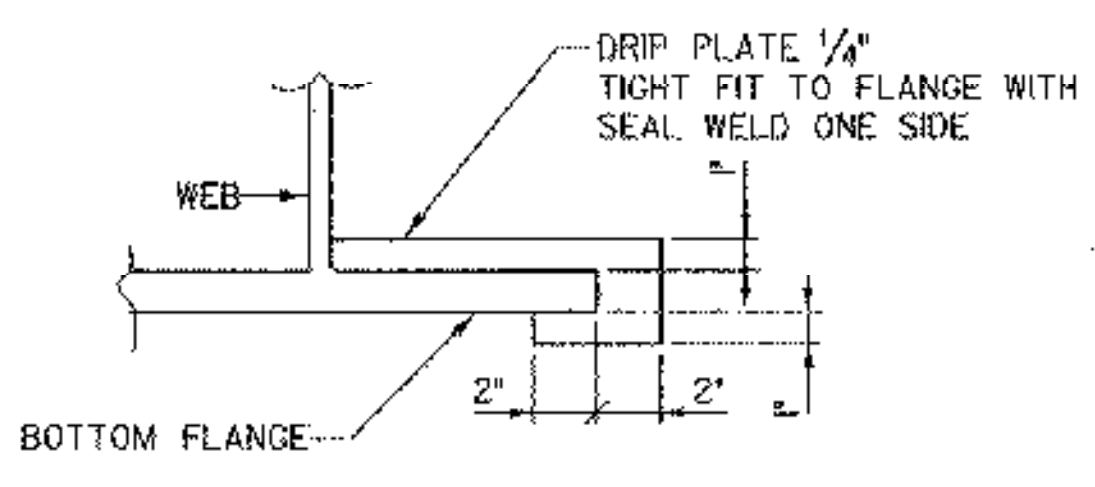
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	CHESTER	Bridge No. 11
Highway No.	TH 5	Log Sta. - Surv. Sta. -
CHURCH STREET OVER WILLIAMS RIVER		

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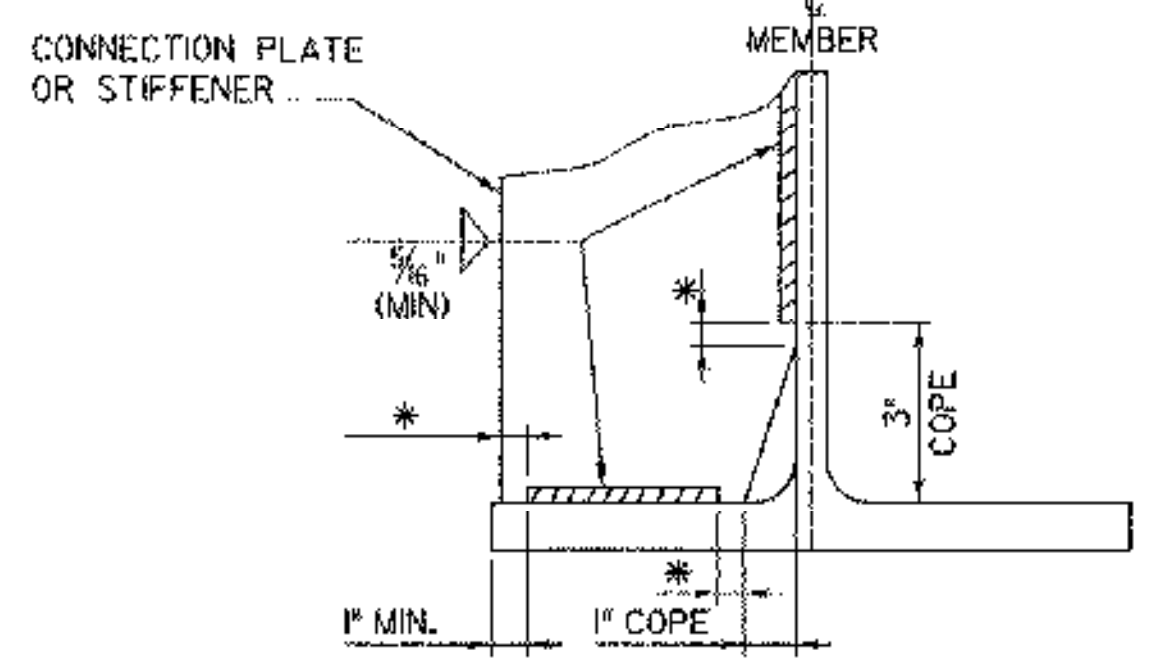
<b>CURTAIN WALL DETAILS</b>	
Designed By G. J. WOJCIECHOWSKI	Drawn By G. J. WOJCIECHOWSKI
Checked By J. TUCKER	Date 03/01
Bridge Design Supervisor J. TUCKER	Date 03/01
PROJECT CHESTER	PROJECT NO. BHO 1442 (32)
I.G.C. Info. ...zj365dl3.dgn	
D & K DWG NO. 11356	Sheet 13 of 22



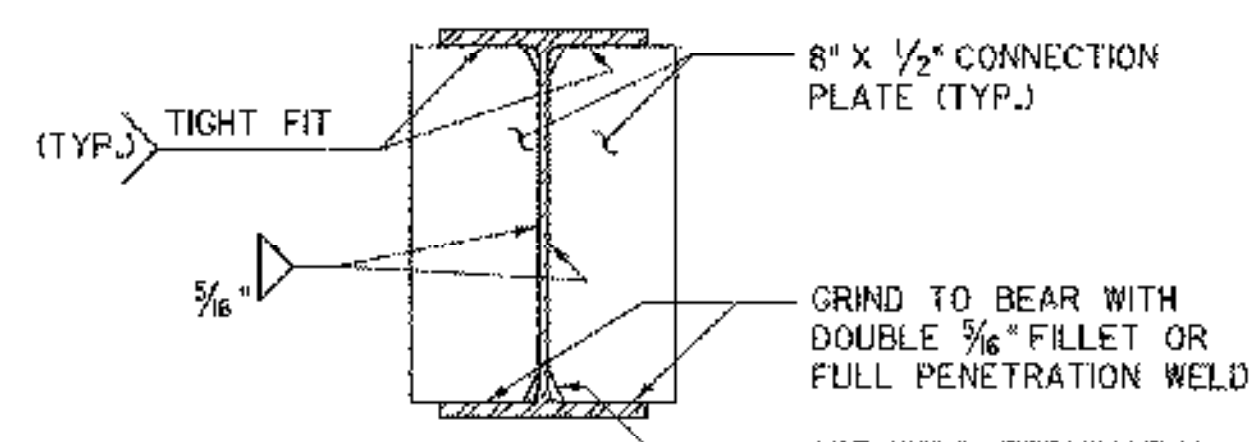
**DRIP PLATE DETAIL**  
N.T.S.



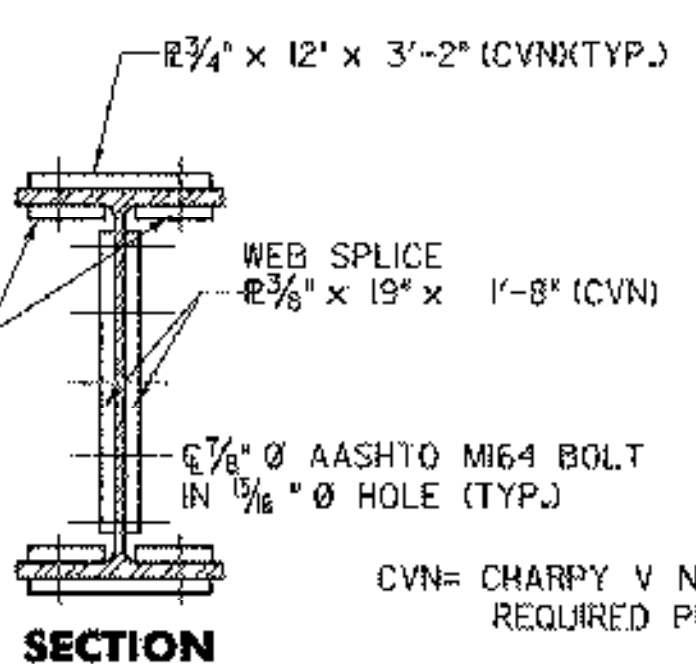
**SECTION A - A**



**WELD TERMINATION AND COPING DETAILS FOR STEEL BEAMS**  
N.T.S.

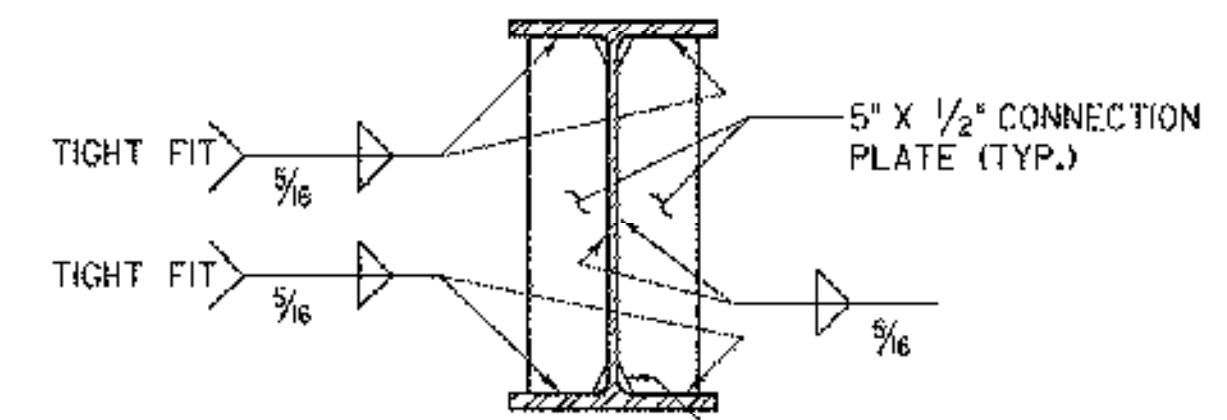


**PIER CONNECTION PLATE DETAIL**  
SCALE 1" = 1'-0"



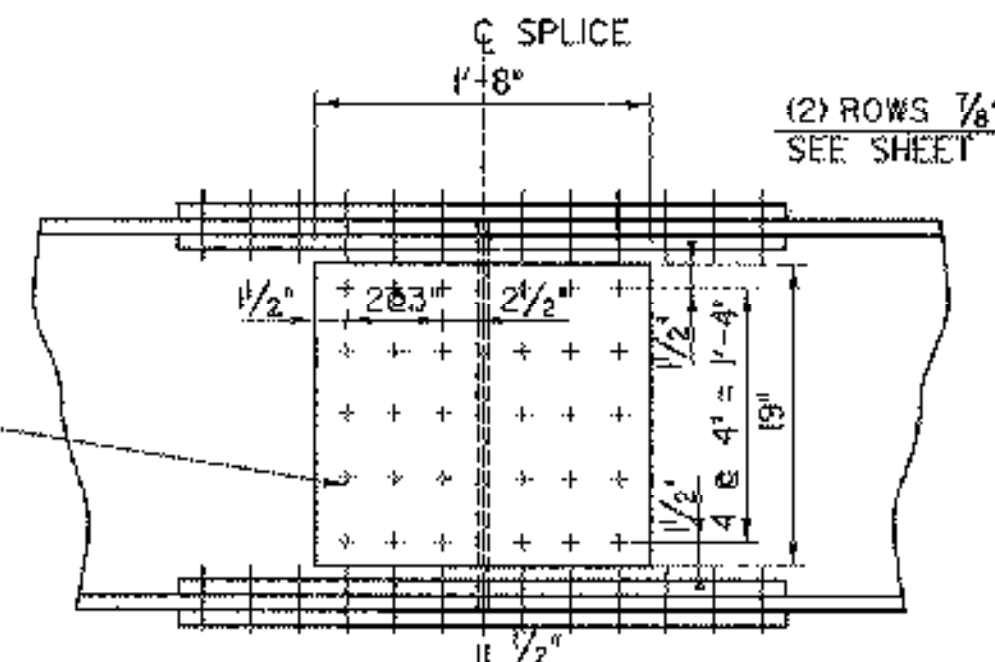
**SECTION**

**SPlice DETAILS**  
SCALE 1" = 1'-0"

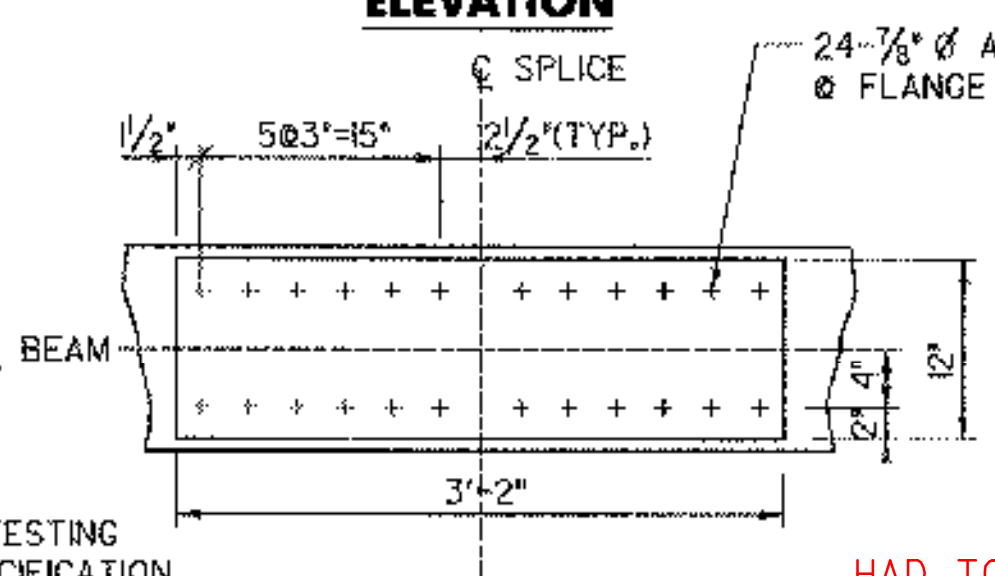


**CONNECTION PLATE DETAIL**  
SCALE 1" = 1'-0"

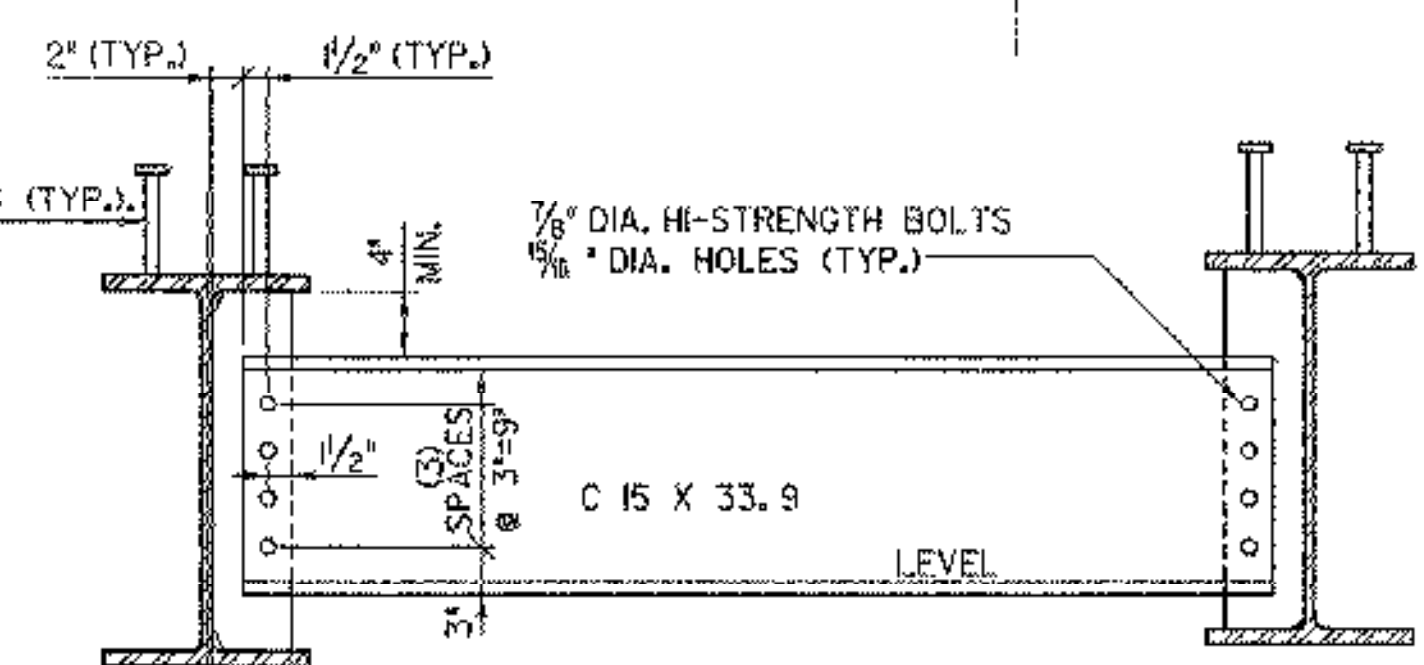
**FRAMING PLAN**  
SCALE 1/4" = 1'-0"



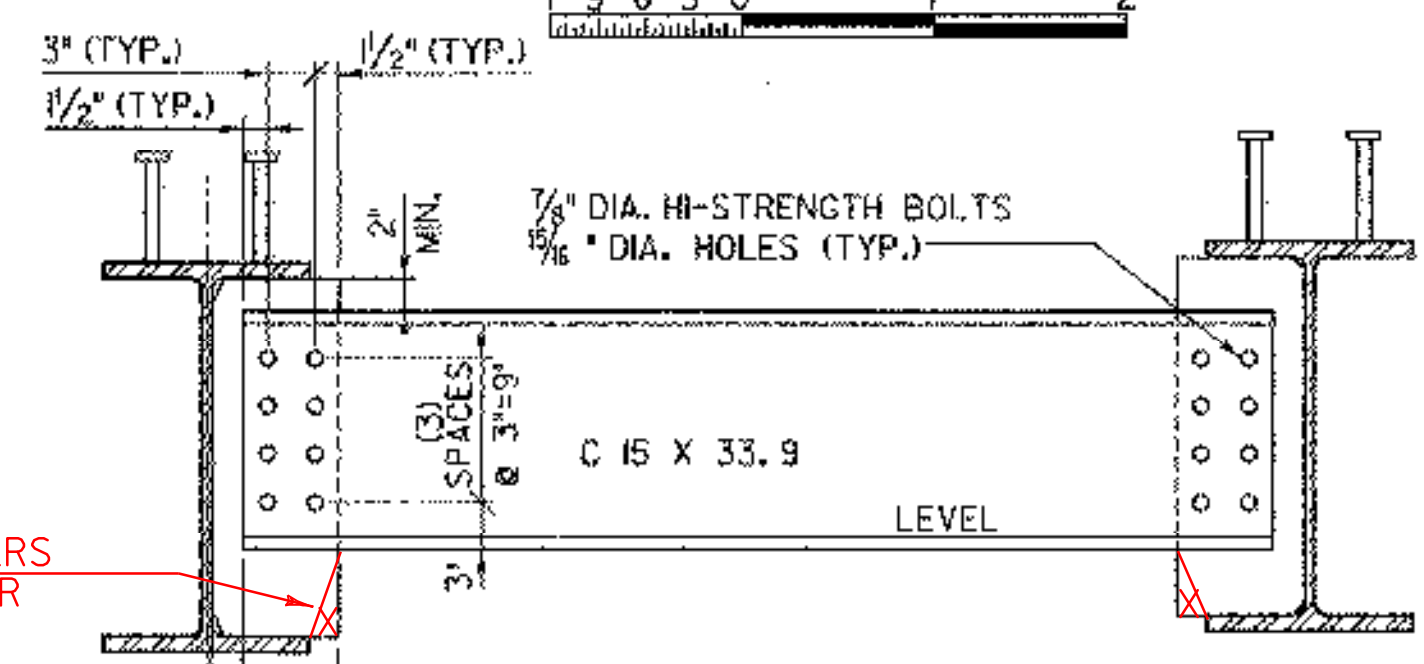
**ELEVATION**



**PLAN (TOP + BOTTOM FLANGE)**



**INTERMEDIATE DIAPHRAGM**  
SCALE 1" = 1'-0"



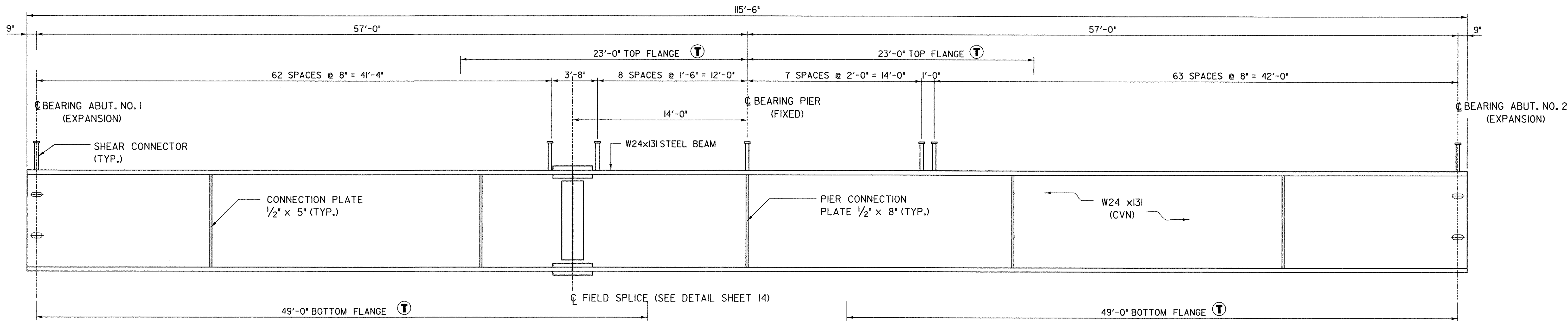
**PIER DIAPHRAGMS**  
SCALE 1" = 1'-0"

REVISIONS		
NO.	DESCRIPTION	BY & DATE

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
CHURCH STREET OVER WILLIAMS RIVER		Surv. Sta.	-
<b>FRAMING PLAN &amp; DETAILS</b>			
Designed By	R. L. JOY	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
PROJECT		Bridge Design Supervisor	J. TUCKER
CHESTER		Date	03/01
PROJECT NO.		BHO 1442 (32)	
I.D.C. Info.			...zj365d14.dgn
D & K DWG NO.	11357	Sheet	14 of 22

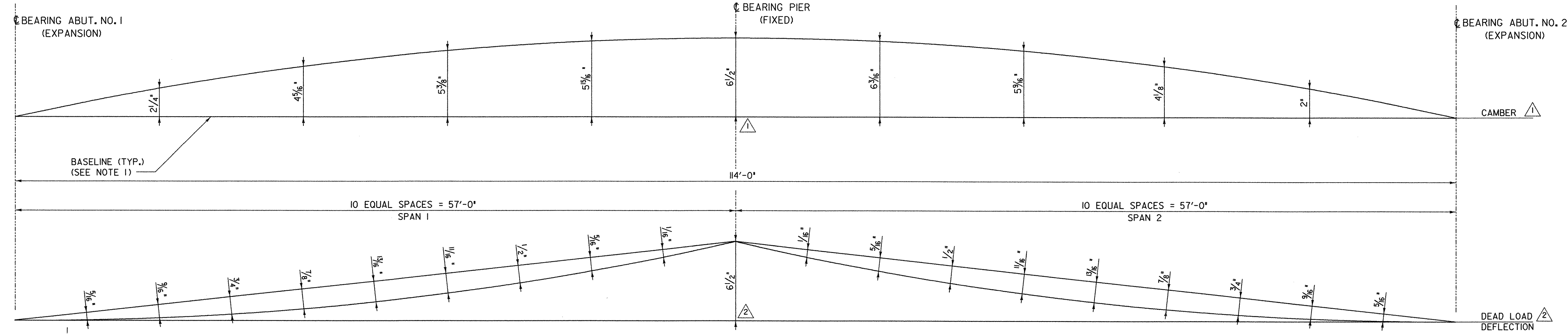
**DuBois & King**  
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02/03/2004

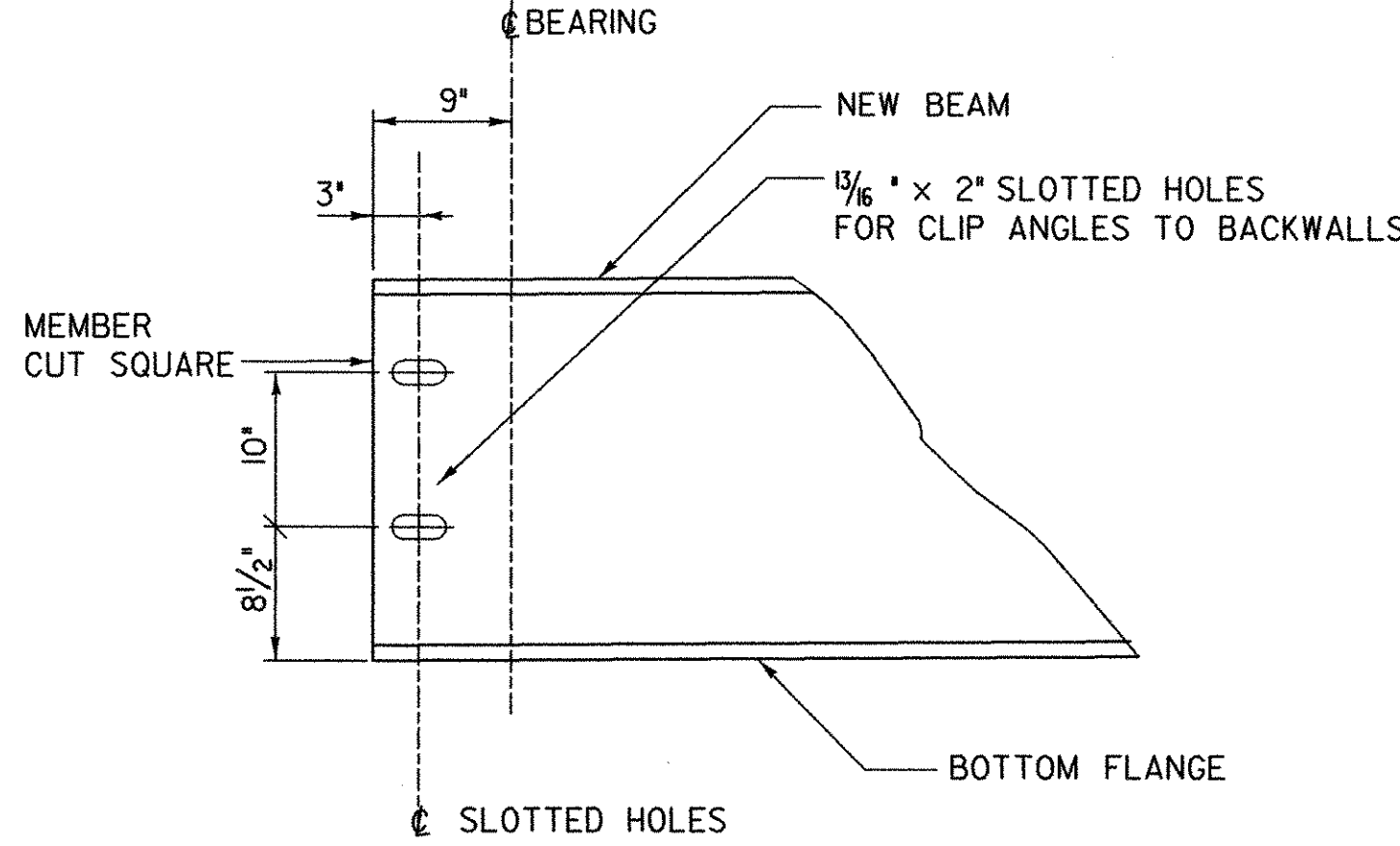


T INDICATES RANGE OF TENSION ZONE  
 CVN = CHARPY V NOTCH TESTING REQUIRED PER SPECIFICATION

**BEAM ELEVATION**  
 N.T.S.

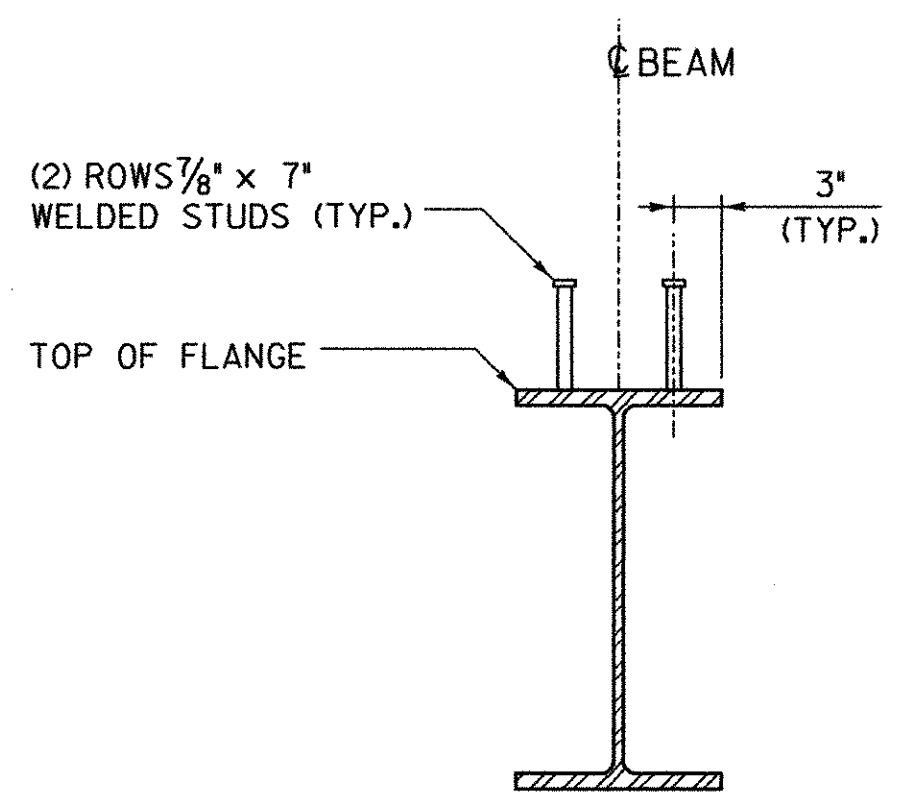


**DEAD LOAD DEFLECTION AND CAMBER DIAGRAM**  
 N.T.S.



**ELEVATION VIEW END OF STEEL BEAM AT ABUTMENT**

SCALE 1" = 1'-0"  
 1 9 6 3 0 2



**SHEAR CONNECTOR DETAIL**

SCALE 1" = 1'-0"  
 1 9 6 3 0 2

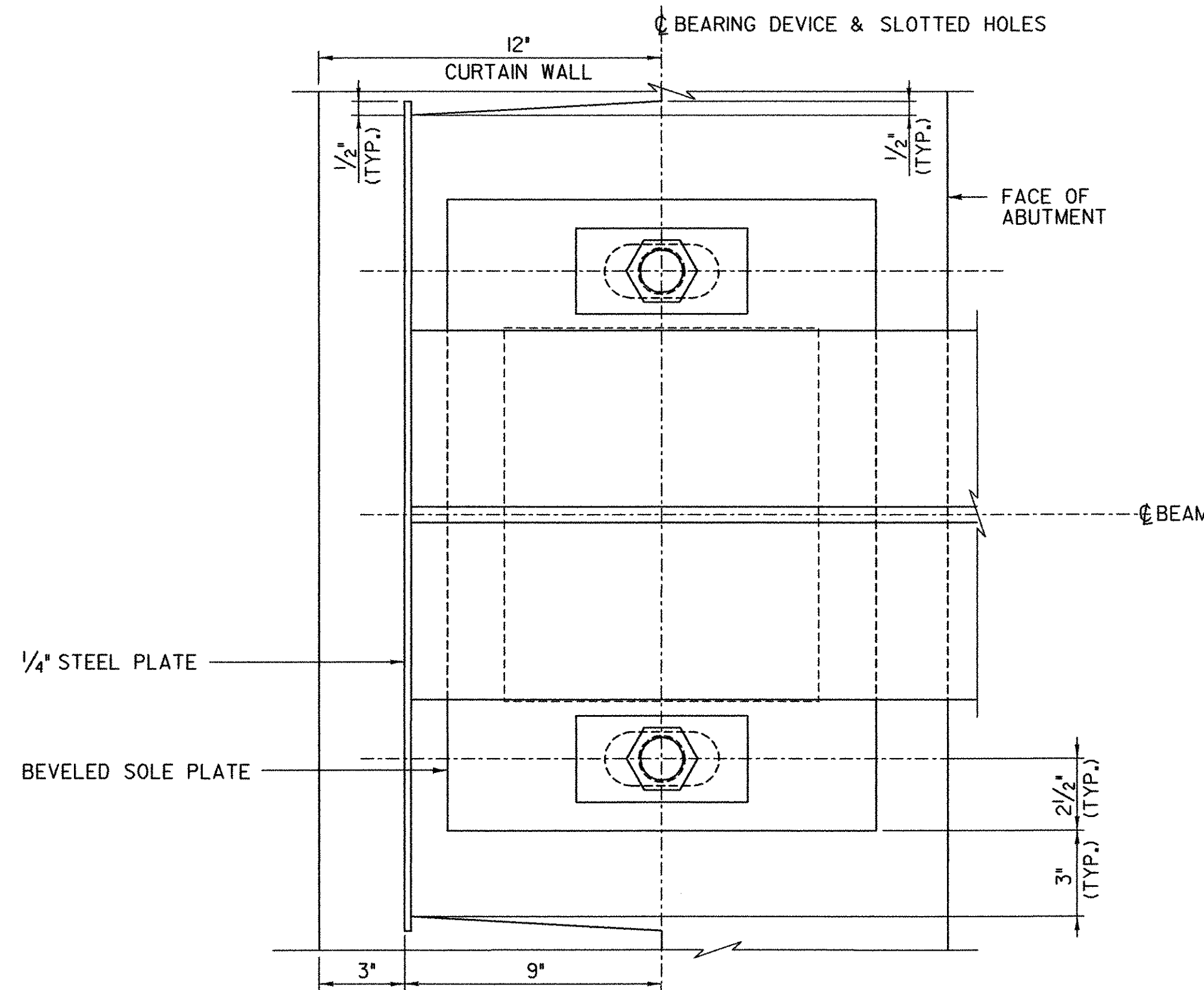
- NOTES:**
1. THE BASELINE IS NOT HORIZONTAL BUT IS FROM BOTTOM OF BEAM TO BOTTOM OF BEAM BETWEEN ABUTMENT SUPPORTS. THE SLOPE OF BASELINE DIFFERS FOR SPAN 1 AND SPAN 2.
  2. THE DEAD LOAD DEFLECTION DIAGRAM INCLUDES BEAM SELF WEIGHT.

REVISIONS		
NO.	DESCRIPTION	BY & DATE
1	REVISED CAMBER DIAGRAM	APG 2/3/04
2	REVISED DEAD LOAD DEFLECTION DIAGRAM	APG 2/3/04

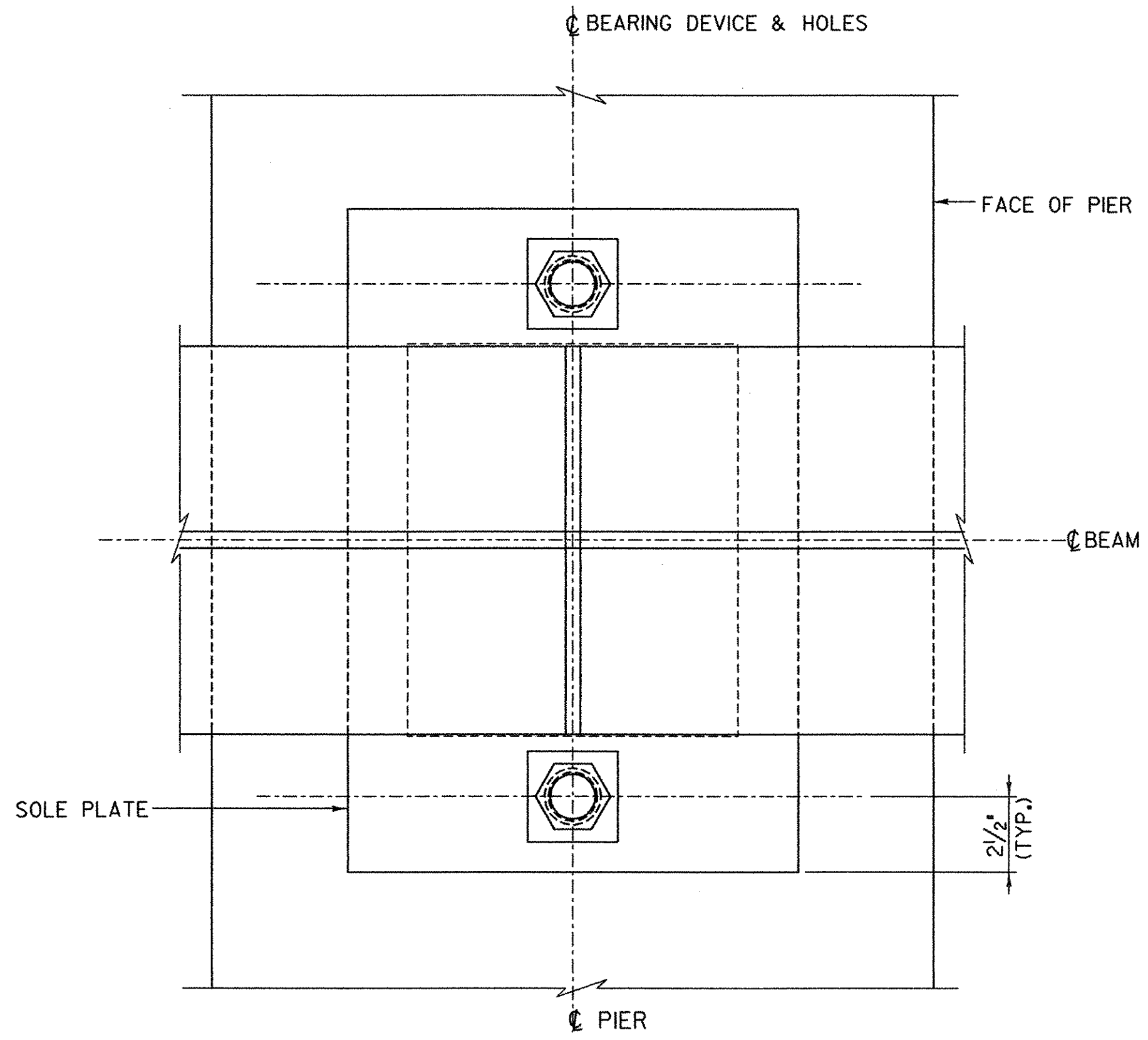
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>	
Town Of	CHESTER
Highway No.	TH 5
CHURCH STREET OVER WILLIAMS RIVER	
Bridge No.	11
Log Sta.	-
Surv. Sta.	-

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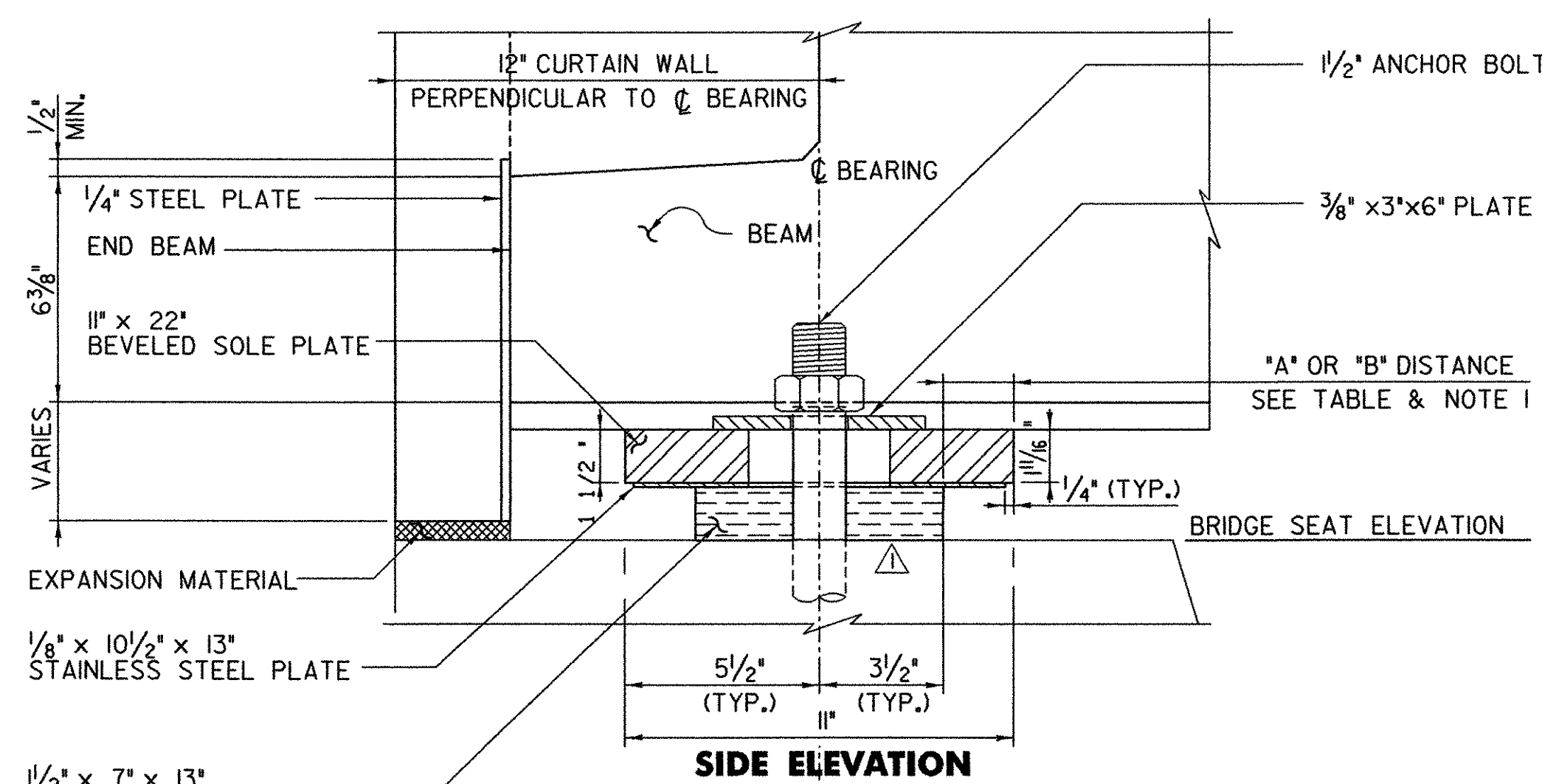
<b>BEAM ELEVATION &amp; DETAILS</b>			
Designed By	R. L. JOY	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
		Bridge Design Supervisor	J. TUCKER
		Date	03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.G.C. Info.	...zj365dl5 .dgn		
D & K DWG NO.	11358	Sheet	15 of 22



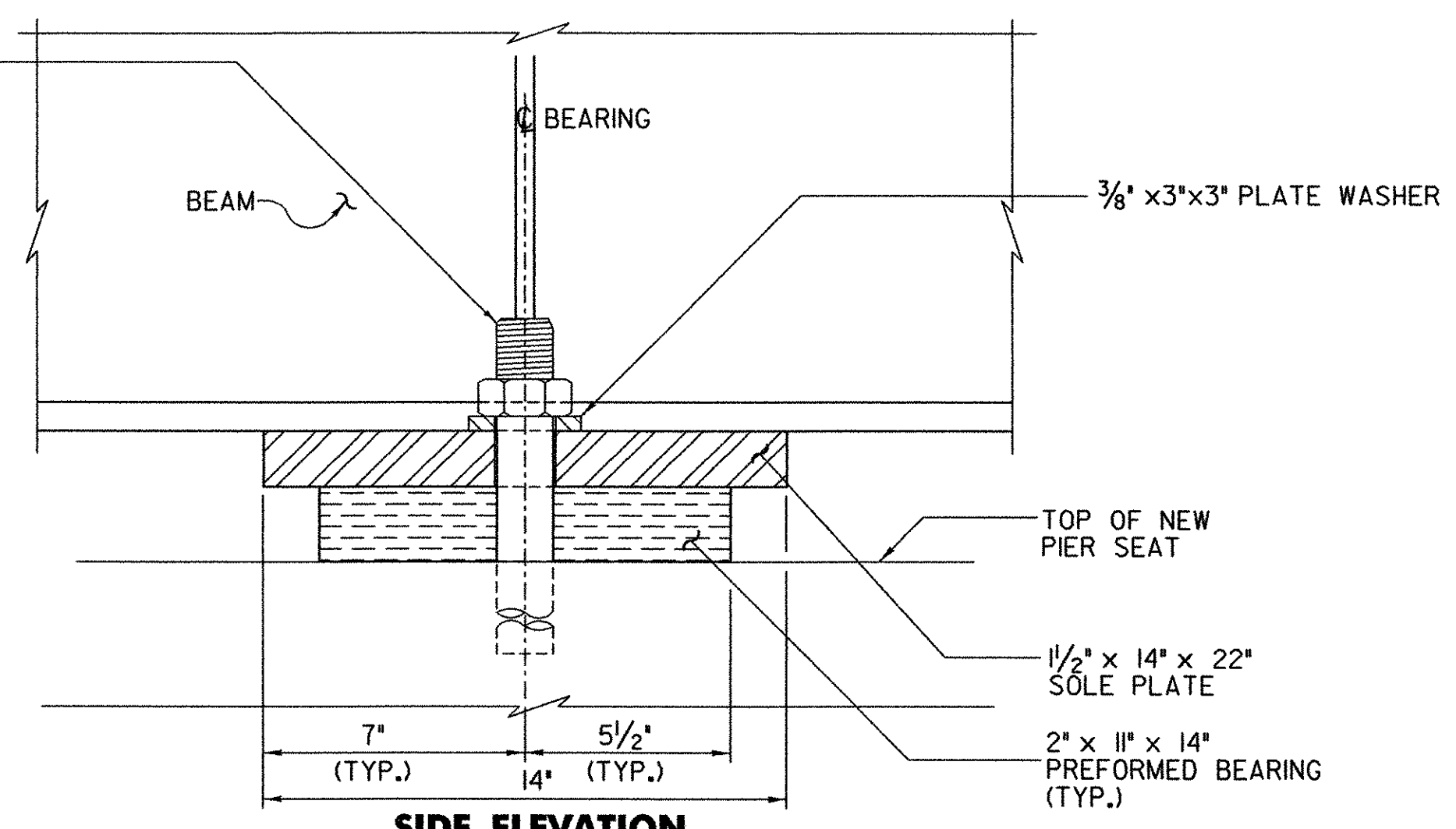
PLAN



PLAN



SIDE ELEVATION

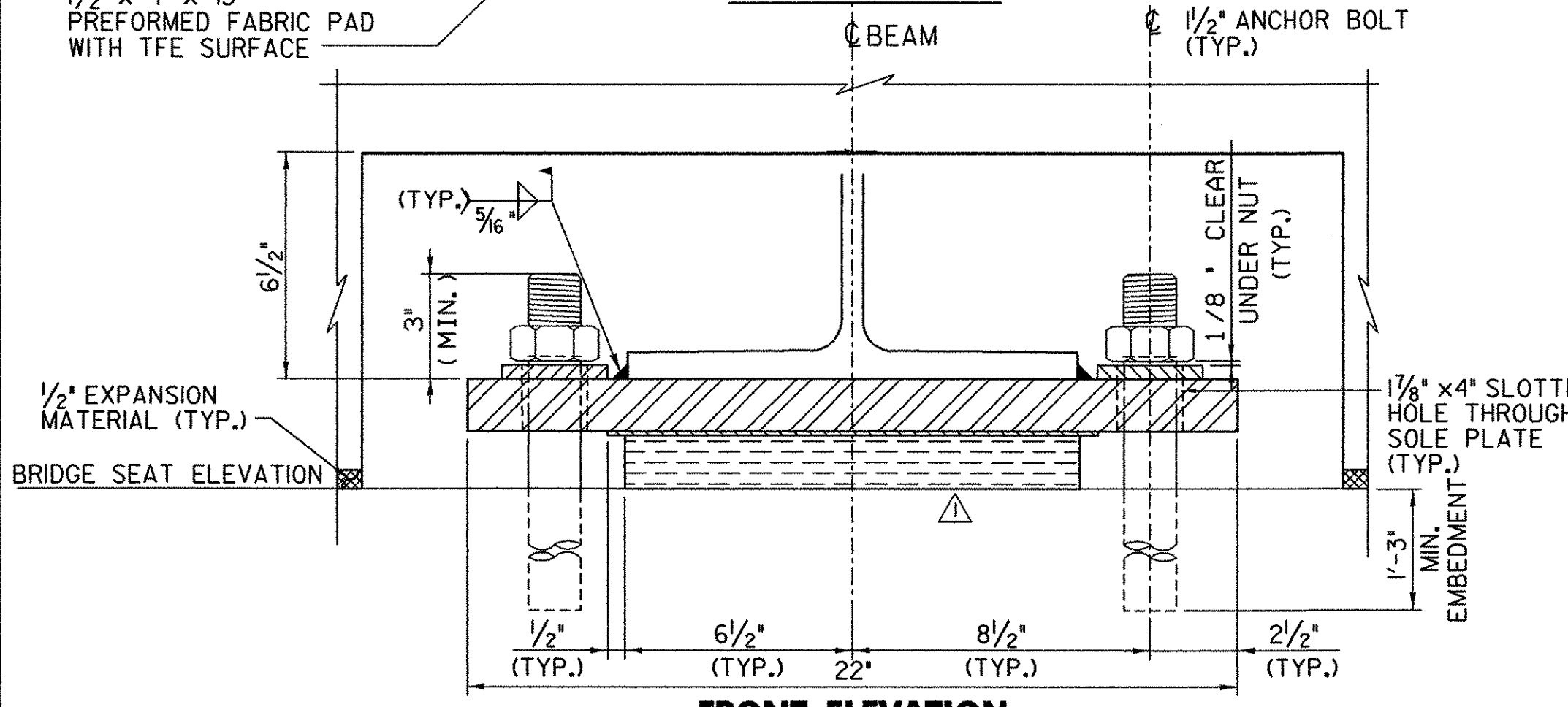


SIDE ELEVATION

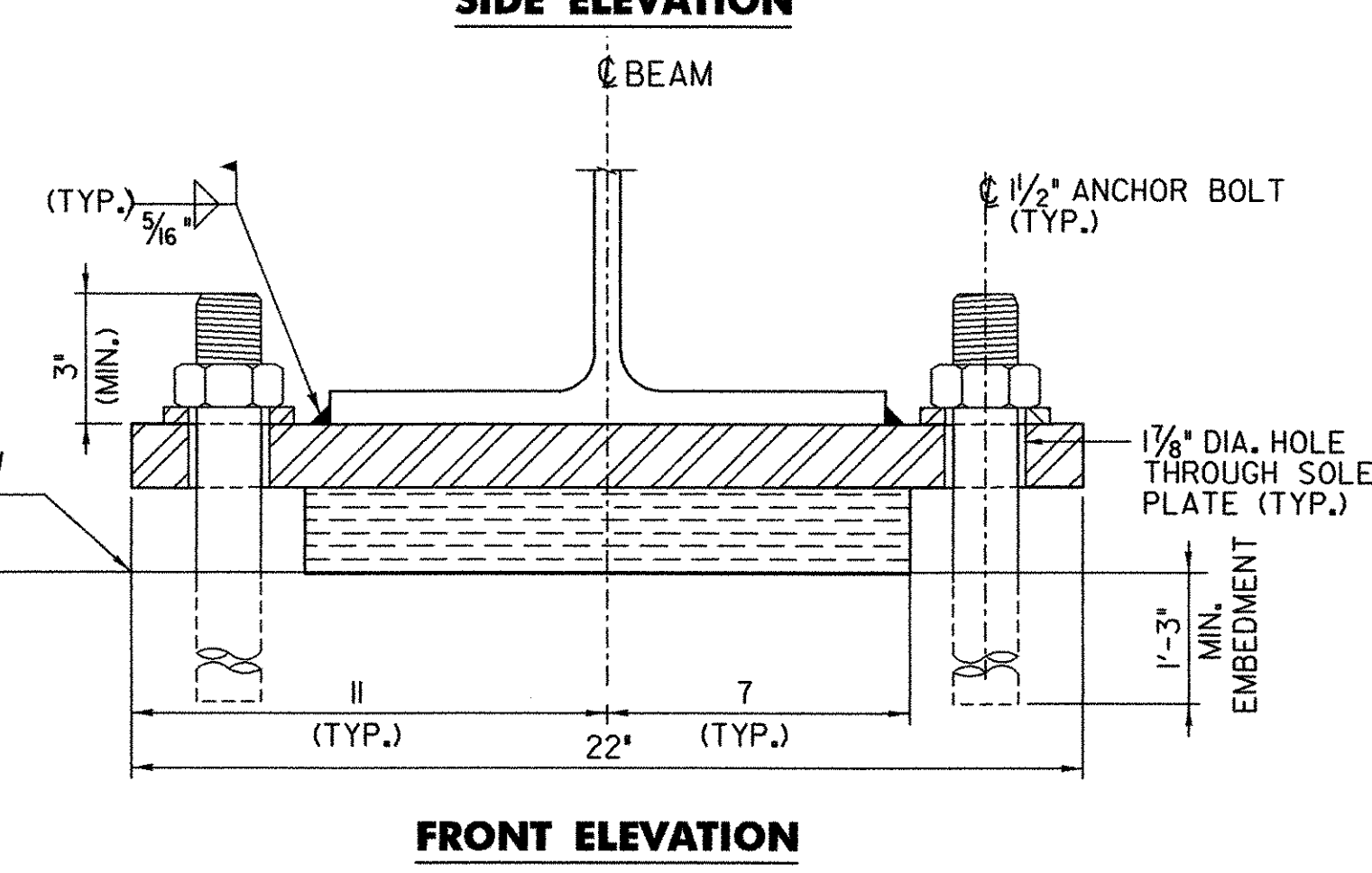
TEMPERATURE ADJUSTMENT TABLE		
TEMP ° F	*A* DIST. ( INCHES)	*B* DIST. ( INCHES)
120	1 5/8	1 3/4
105	1 3/4	1 7/8
90	1 3/4	1 7/8
75	1 7/8	2
60	1 7/8	2
45	2	2 1/8
30	2 1/8	2 1/8
15	2 1/8	2 1/4
0	2 1/4	2 1/4
-15	2 1/4	2 3/8
-30	2 3/8	2 3/8

**NOTE:**

1. THE "A" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER THE DEAD LOAD IS ADDED TO THE BEAM SELF WEIGHT. THE "B" DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED AFTER BEAM ERECTION AND BEFORE DECK IS POURED. THE DIFFERENCE IS THE ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION FROM THE SLAB, BRUSH CURB, BRIDGE RAIL, AND PAVEMENT.
2. SEE SHEET 10 FOR ADDITIONAL BEARING NOTES.



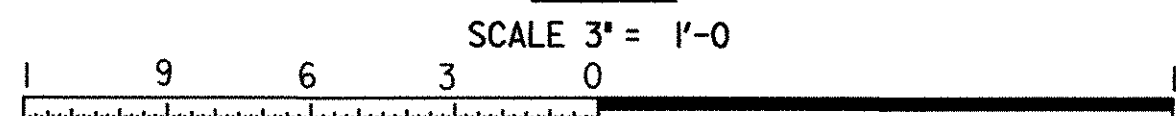
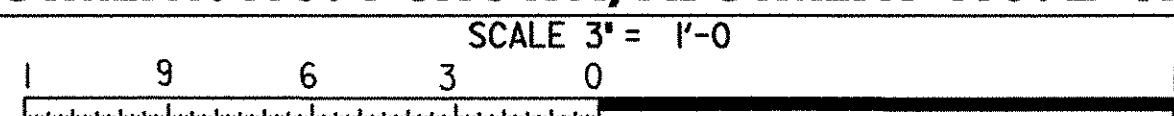
FRONT ELEVATION



FRONT ELEVATION

**EXPANSION BEARING DETAILS**  
( ABUTMENT. NO. 1 SHOWN, ABUTMENT NO. 2 SIMILAR)

**FIXED BEARING DETAILS**  
(PIER)



REVISIONS		
NO.	DESCRIPTION	BY & DATE
1	REMOVED SHIM PLATE FROM BEARING ASSEMBLY	APG 2/3/04

**STATE OF VERMONT**  
**AGENCY OF TRANSPORTATION**

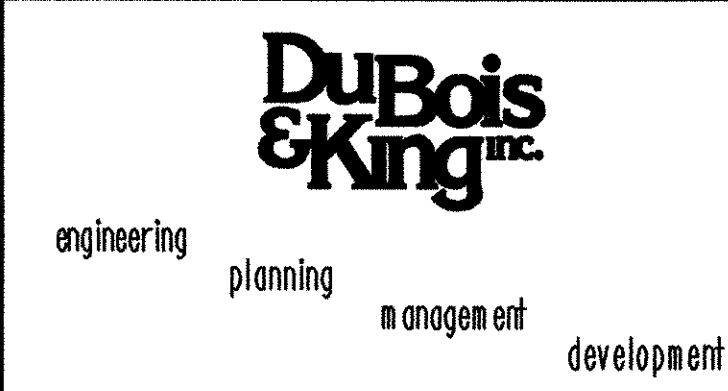
Town Of **CHESTER** Bridge No. **11**  
 Highway No. **TH 5** Log Sta. **-**  
 Surv. Sta. **-**  
**CHURCH STREET OVER WILLIAMS RIVER**

**BEARING DETAILS**

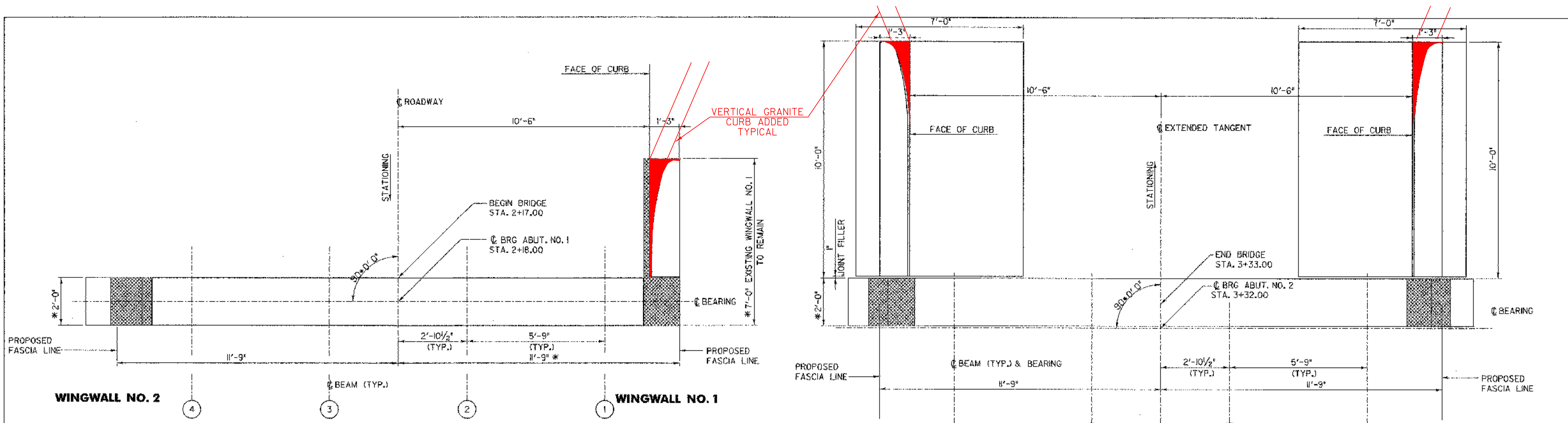
Designed By **R. L. JOY** Drawn By **G. J. WOJCIECHOWSKI**  
 Checked By **J. TUCKER** Date **03/01** Bridge Design Supervisor  
 J. TUCKER Date **03/01**

PROJECT **CHESTER** PROJECT NO. **BHO 1442 (32)**

I.G.C. Info. **...zj365dl6.dgn**  
 D & K DWG NO. **11359** Sheet **16** of **22**



02/10/2004

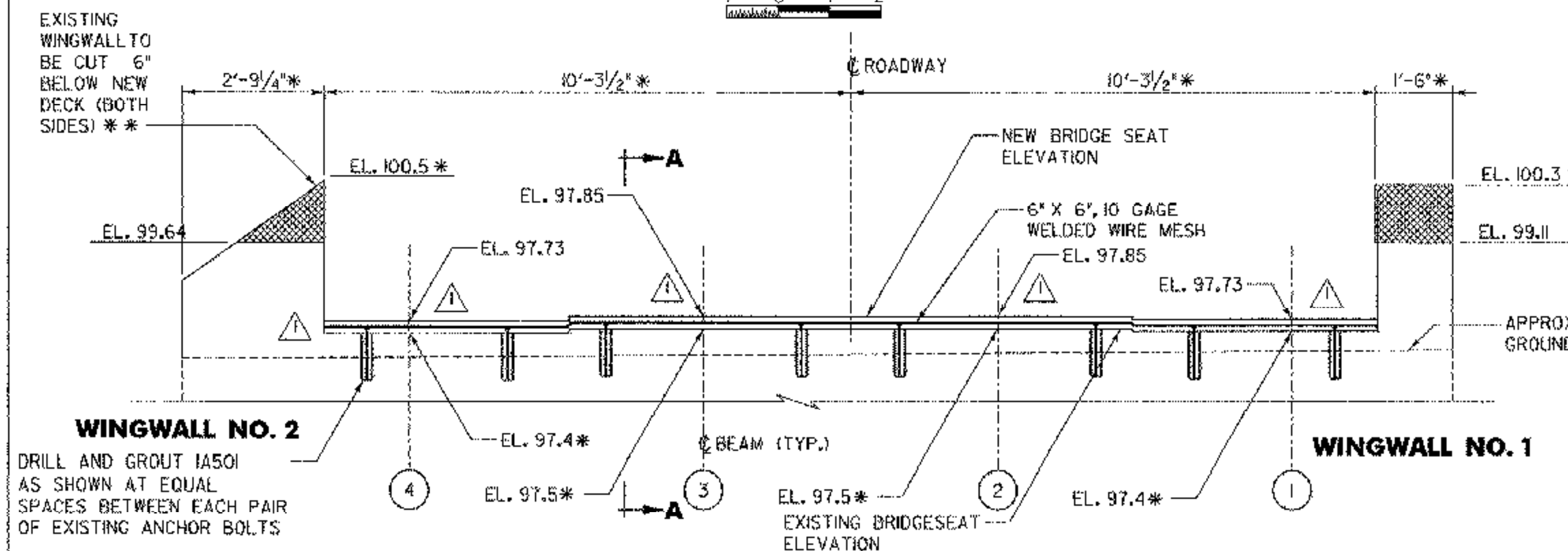


**ABUTMENT NO. 1 - PLAN**

SCALE 1/2" = 1'-0"

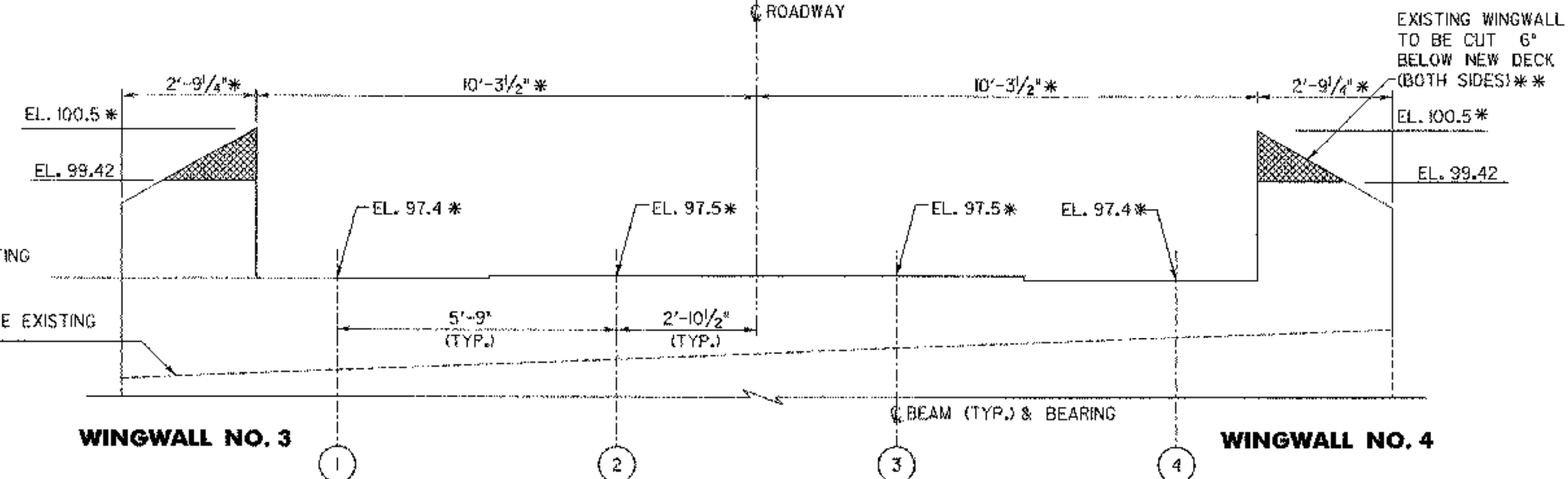
**ABUTMENT NO. 2 - PLAN**

SCALE 1/2" = 1'-0"



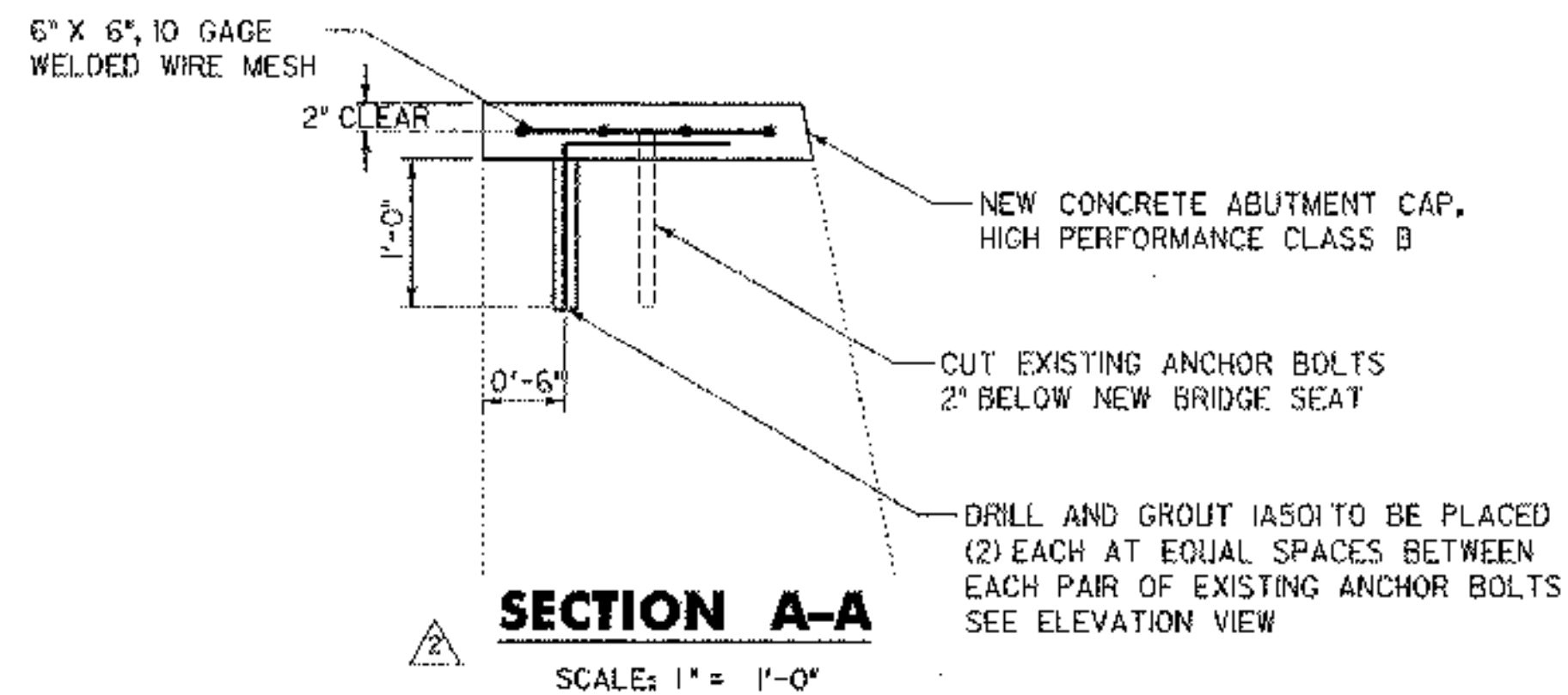
**ABUTMENT NO. 1 - ELEVATION**

SCALE 1/2" = 1'-0"



**ABUTMENT NO. 2 - ELEVATION**

SCALE 1/2" = 1'-0"



**SECTION A-A**

SCALE: 1" = 1'-0"

■ DENOTES LIMITS OF REMOVAL

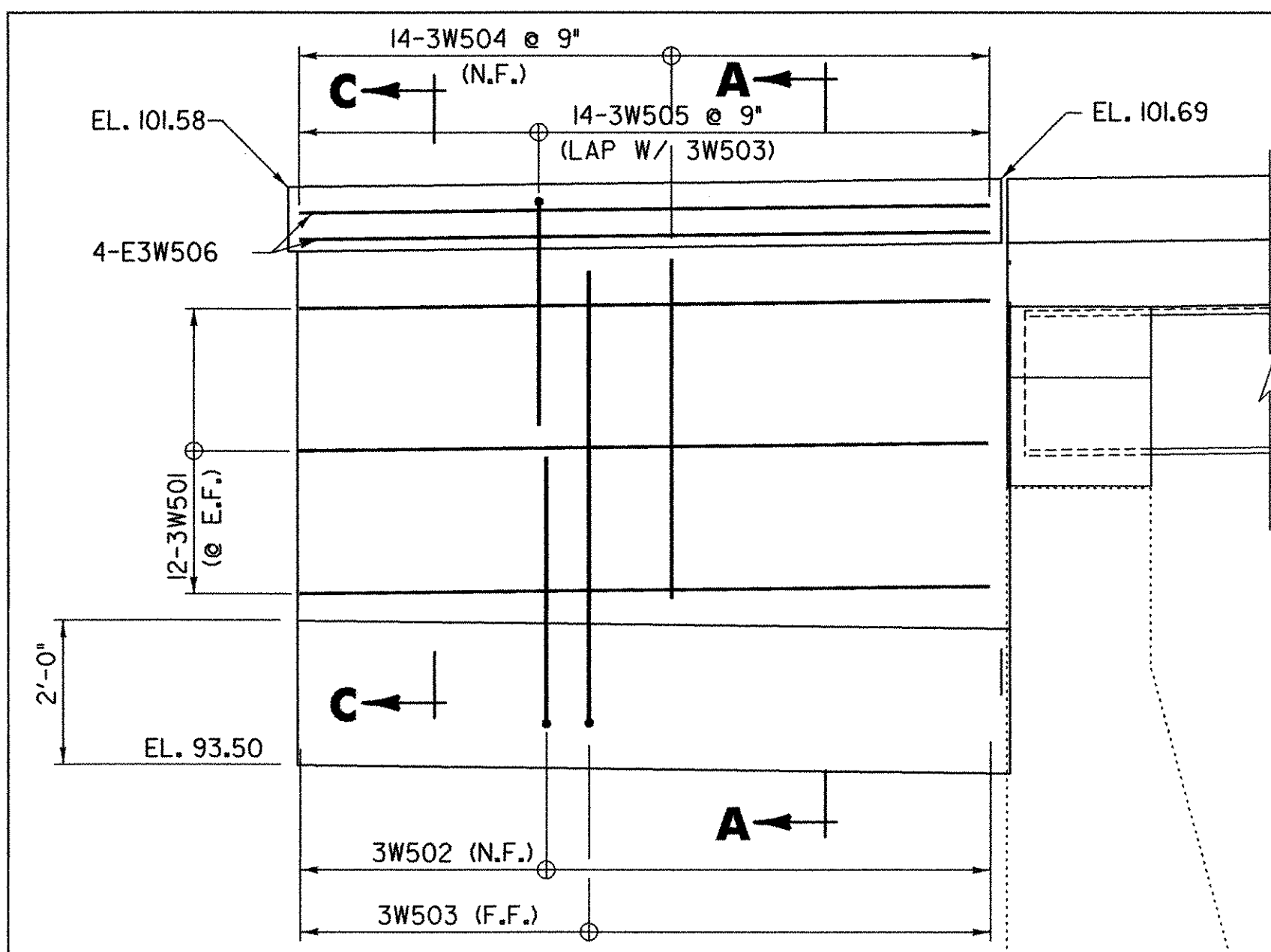
\* APPROXIMATE EXISTING ELEVATION OR DIMENSION

\*\* TOPS OF EXISTING WINGWALLS SHALL BE REMOVED TO 6" MIN. BELOW THE ANTICIPATED BOTTOM OF NEW DECK. CONCRETE, HIGH PERFORMANCE CLASS B SHALL BE PLACED TO BRING THE TOP OF THE WINGWALL TO INCH BELOW THE COMPUTED BOTTOM OF DECK. RETAIN EXISTING REINFORCING, SEE REMOVAL NOTES SHEET 10. 1" INCH CLOSED CELL FOAM WILL BE PLACED ON TOP OF THE NEW WINGWALL CONCRETE BEFORE THE NEW DECK IS POURED.

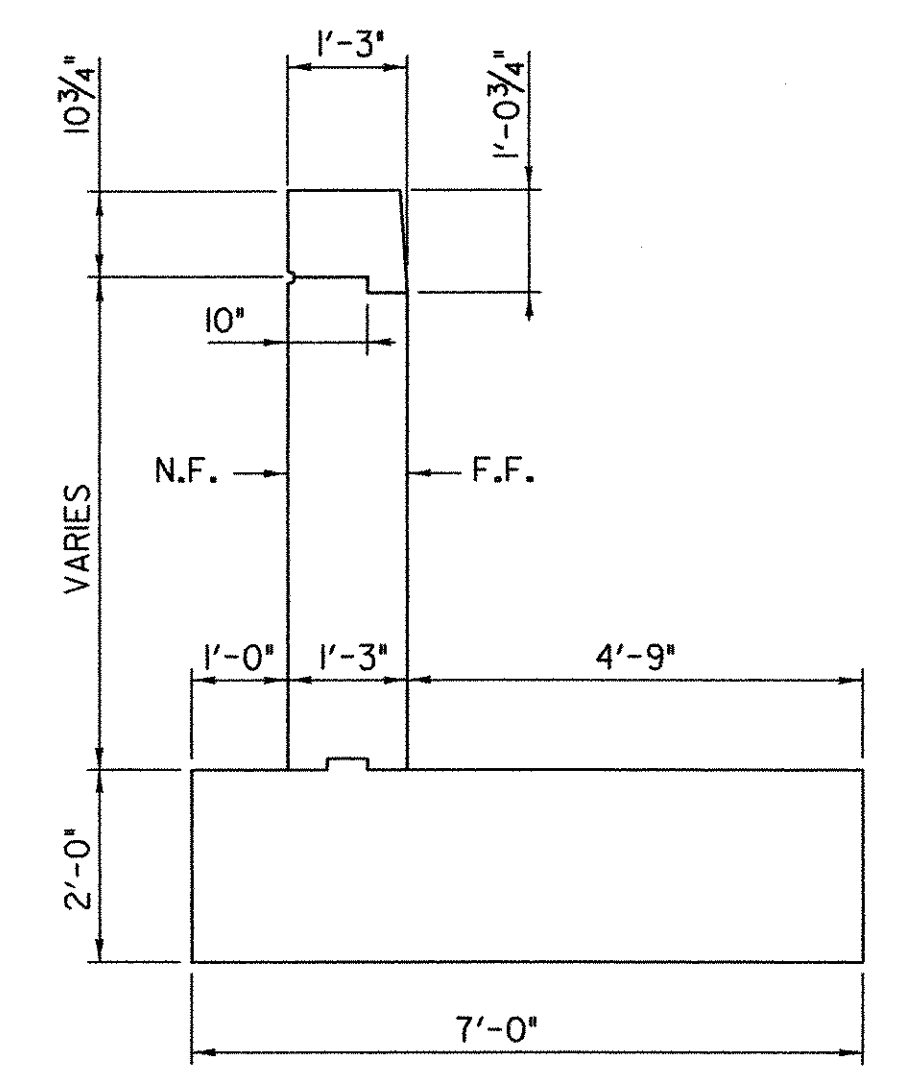
REVISIONS			STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	Town Of	Bridge No.
1	ADDED ABUTMENT CAP AND MODIFIED BRIDGE SEAT ELEVATIONS OF ABUTMENT NO. 1 ELEVATION	APG 2/3/04	CHESTER	11
2	ADDED SECTION A-A	APG 2/3/04	Highway No. TH 5	Log Sta. -
			CHURCH STREET OVER WILLIAMS RIVER	Surv. Sta. -
ABUTMENTS DETAILS				
Designed By J. W. KAMB		Drawn By G. J. WOJCIECHOWSKI		
Checked By J. TUCKER		Bridge Design Supervisor		
Date 03/01		Date 03/01		
PROJECT CHESTER		PROJECT NO. BHO 1442 (32)		
I.G.C. Info. ...zj365dl7.dgn				
D & K DWG NO. R360		Sheet 17 of 22		



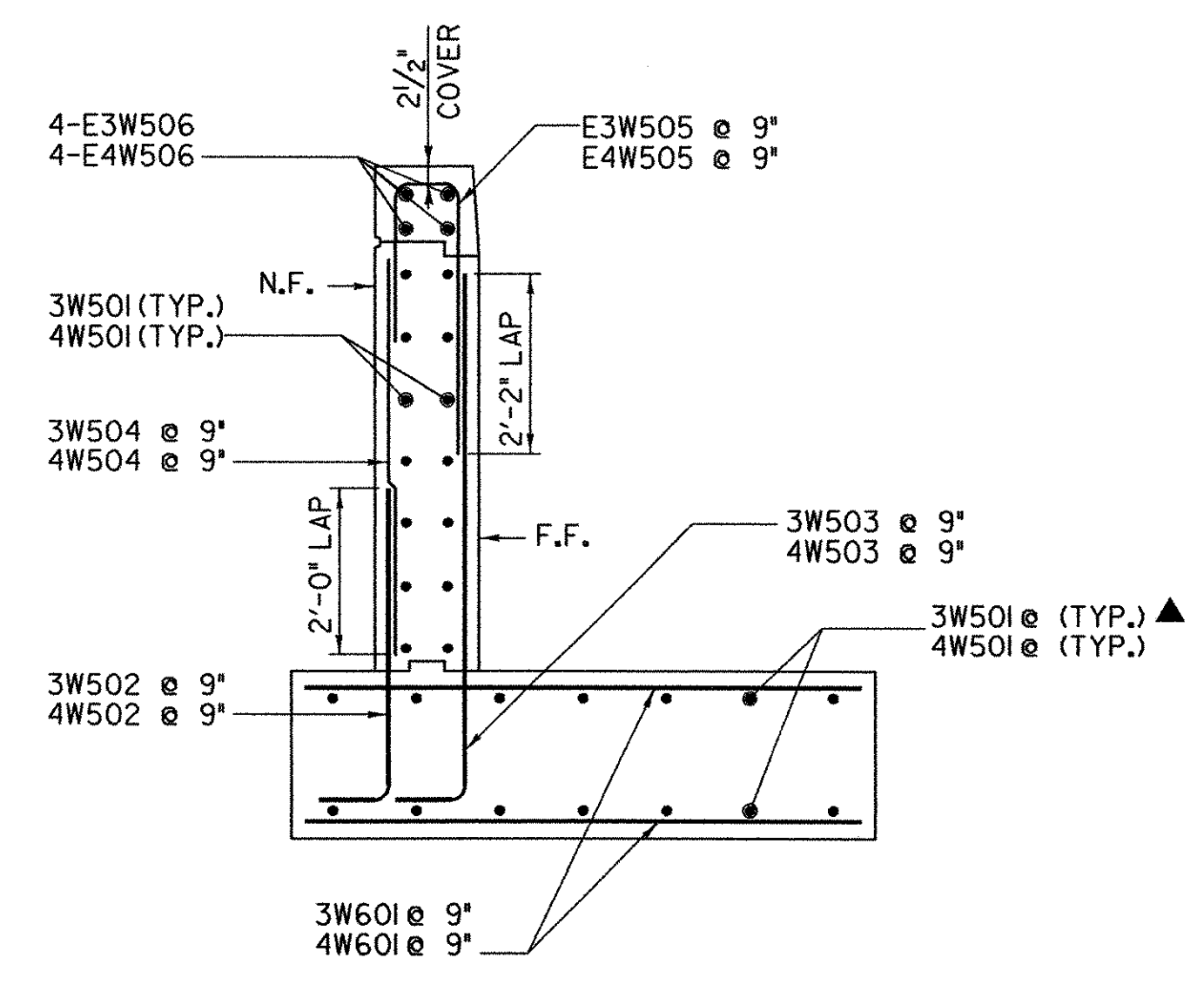
02/13/2004



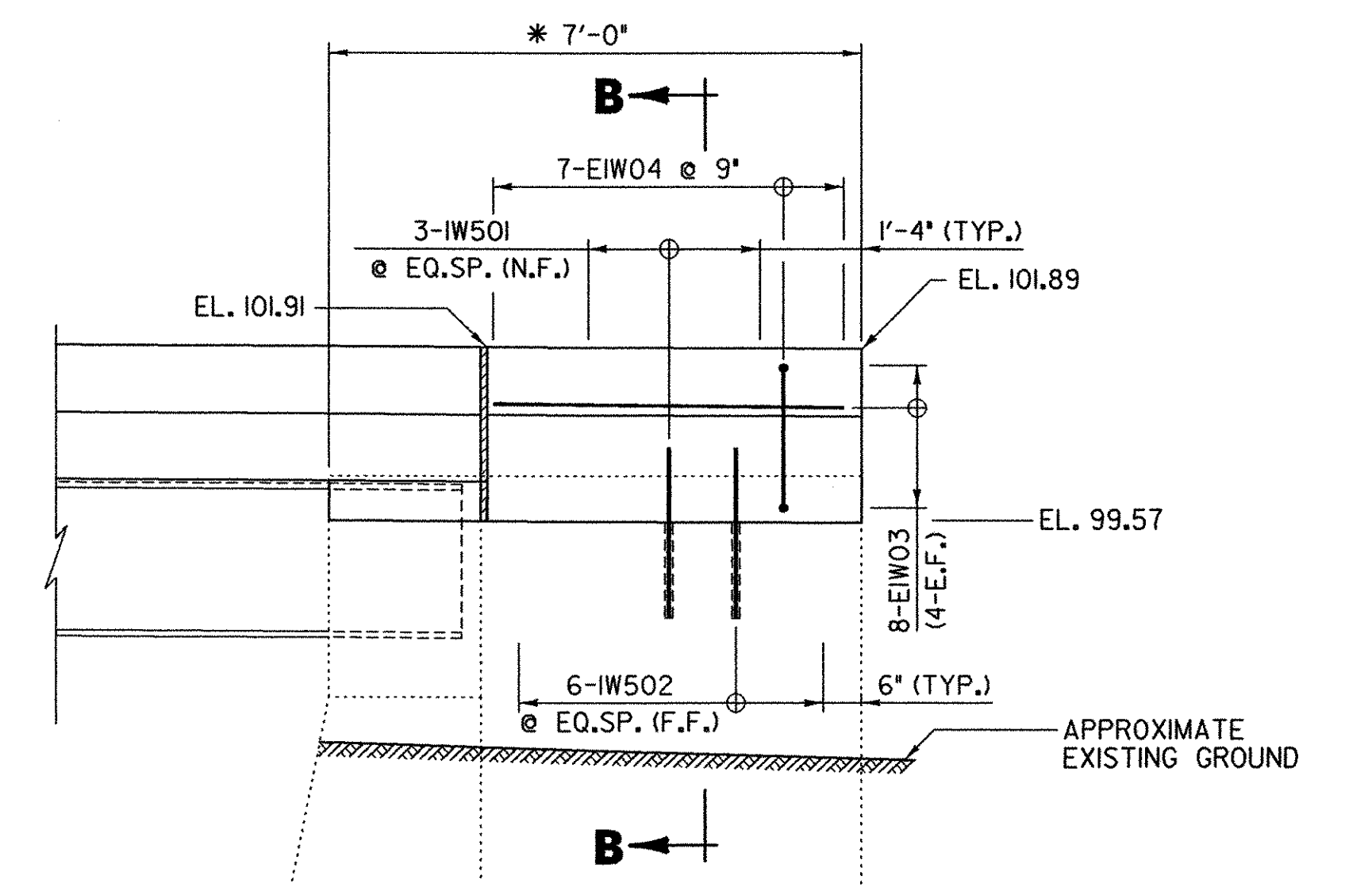
**ELEVATION WINGWALL NO. 3**  
SCALE 1/2" = 1'-0"  
0 1 2



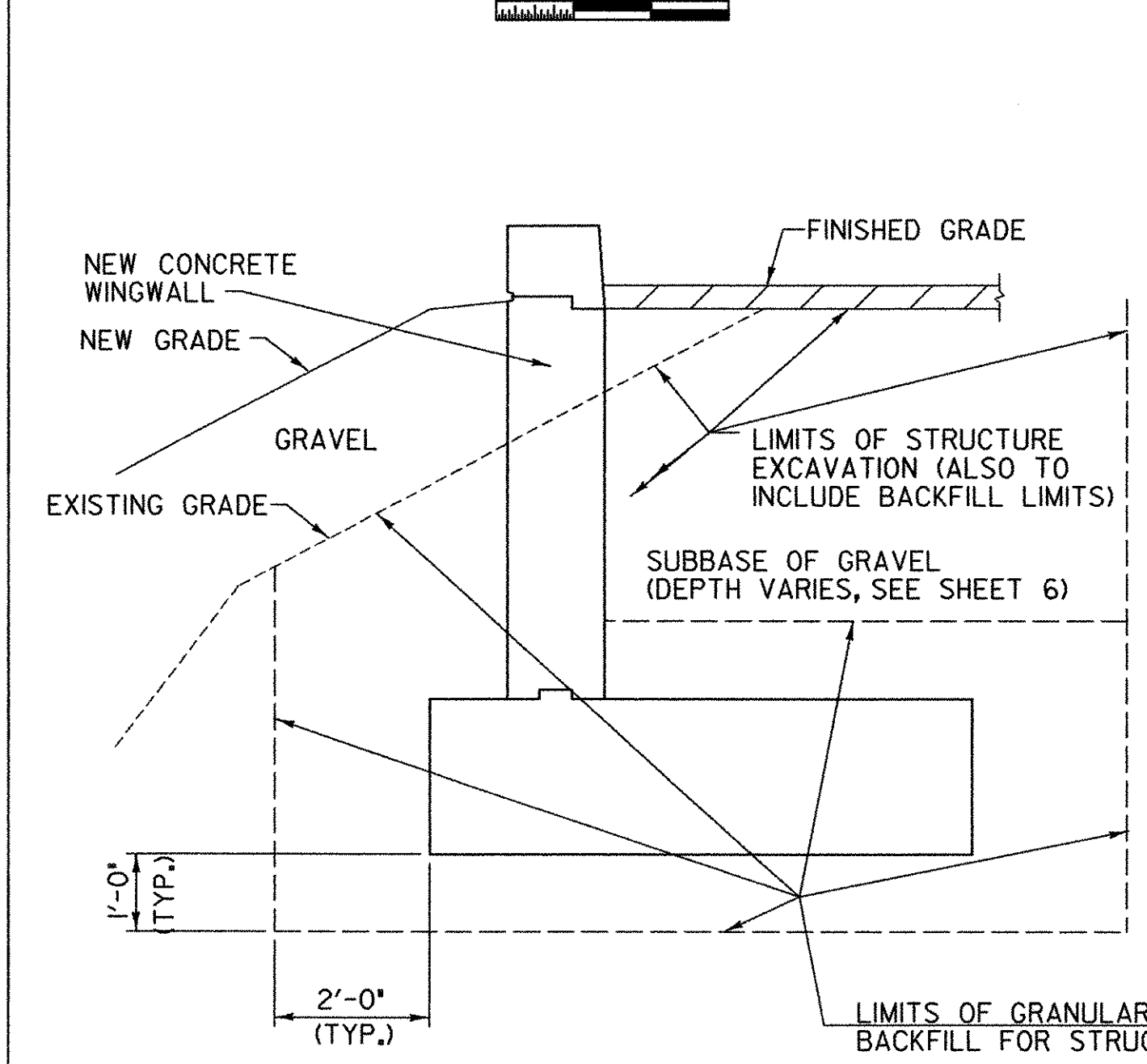
**SECTION A-A**  
SCALE 1/2" = 1'-0"  
0 1 2



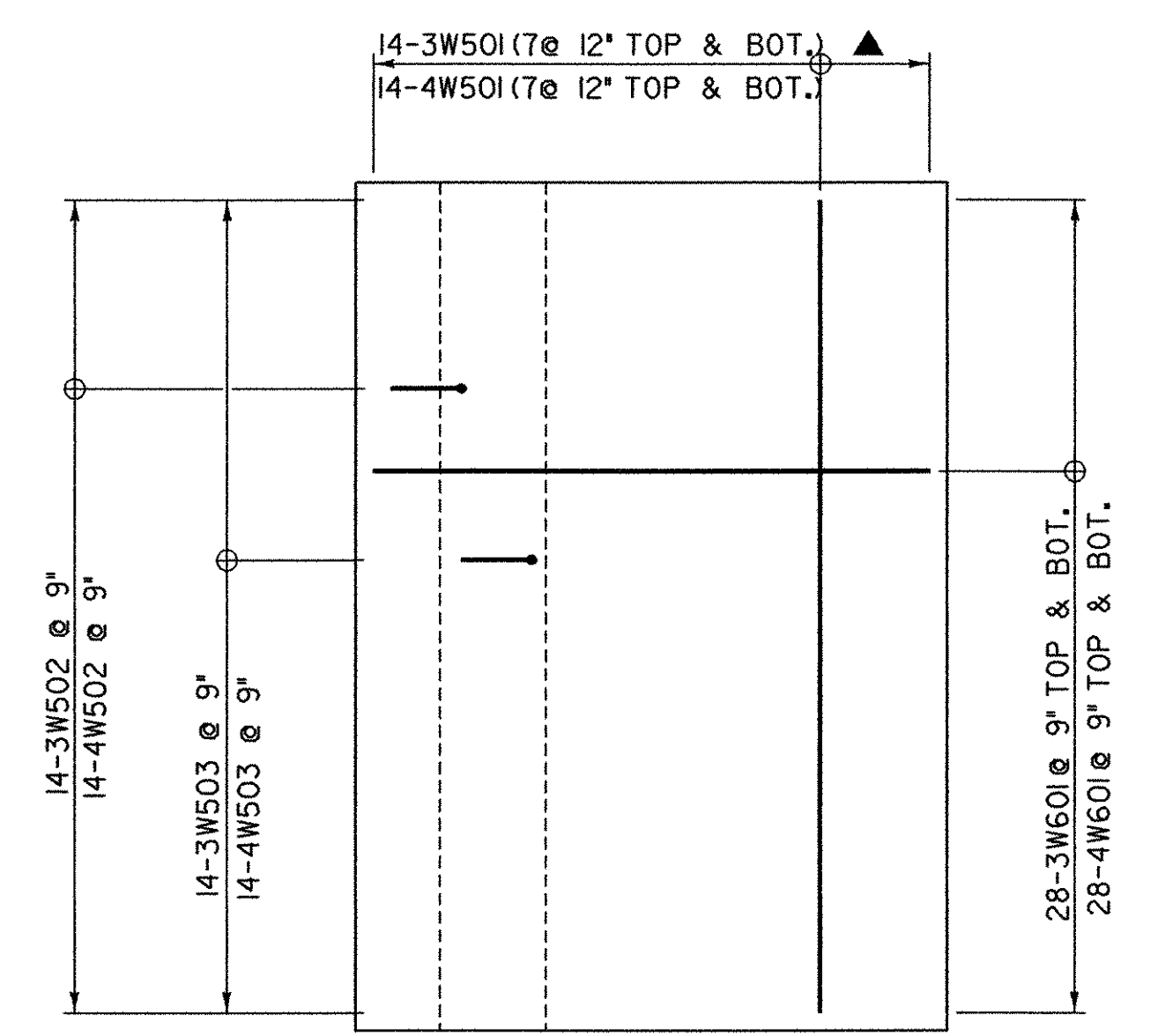
**SECTION A-A**  
SCALE 1/2" = 1'-0"  
0 1 2



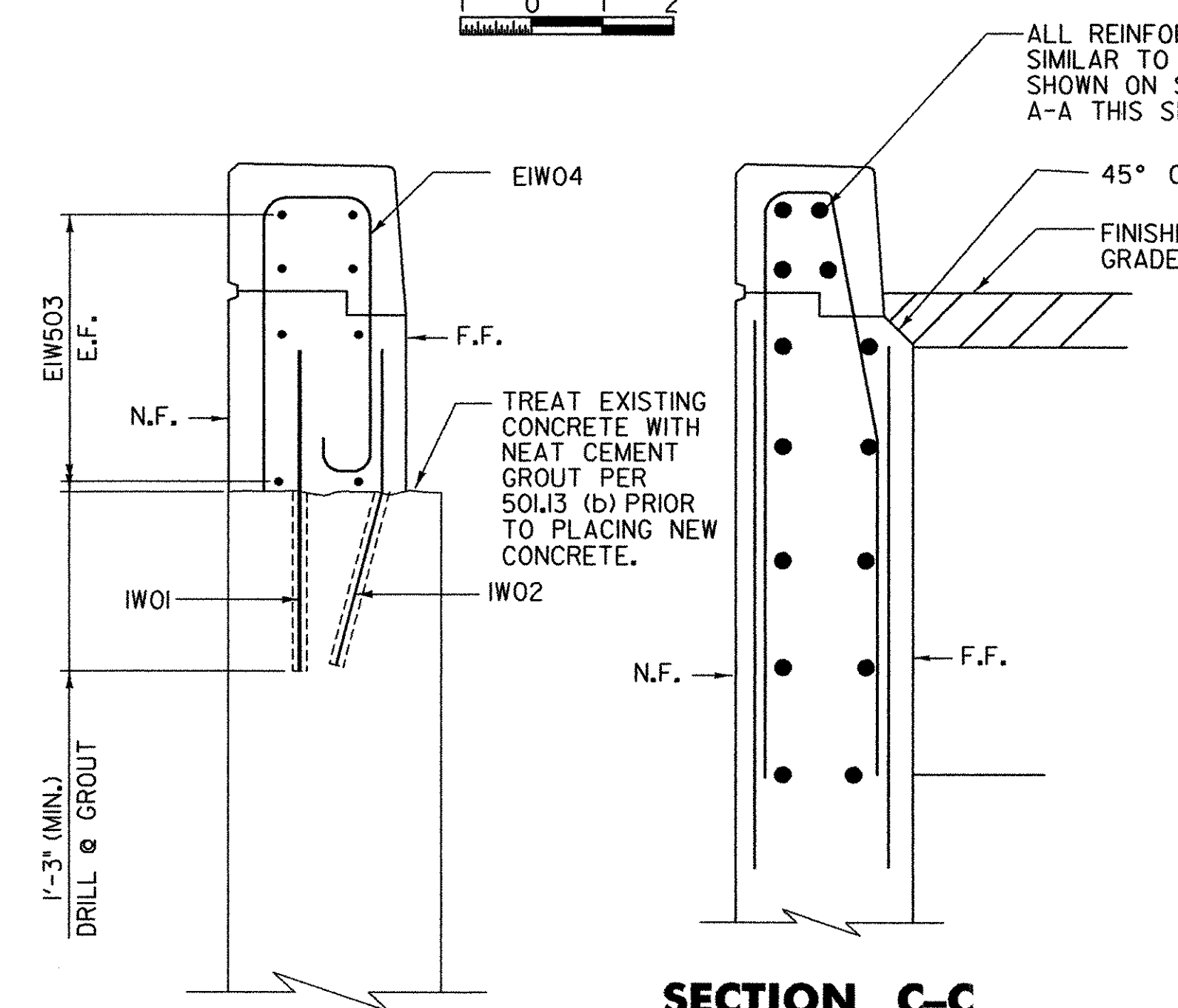
**ELEVATION WINGWALL NO. 1**  
SCALE 1/2" = 1'-0"  
0 1 2



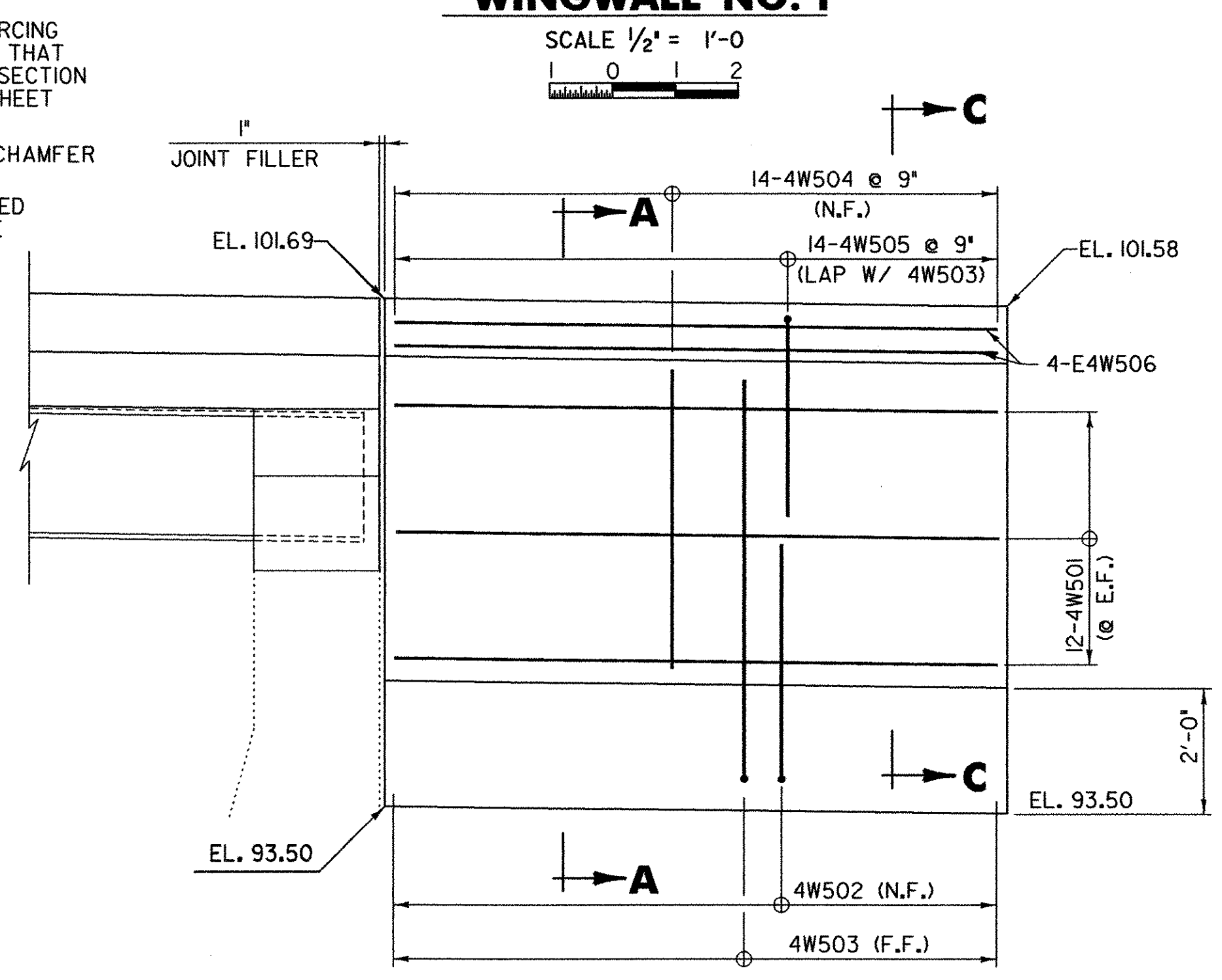
**TYPICAL WINGWALL EARTHWORK SECTION**  
SCALE 1/2" = 1'-0"  
0 1 2



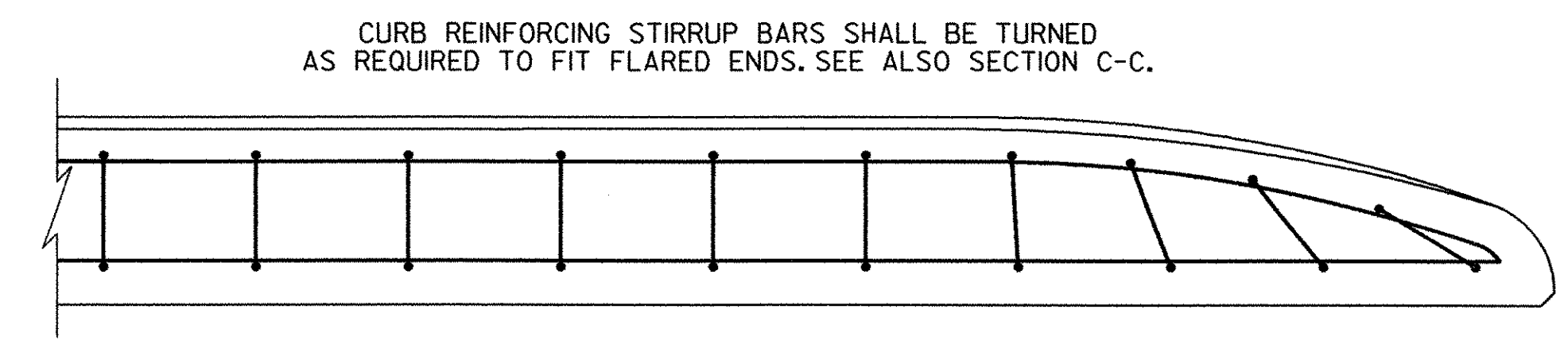
**FOOTING PLAN**  
SCALE 1/2" = 1'-0"  
0 1 2



**SECTION B-B**  
SCALE 1" = 1'-0"  
0 1 2



**ELEVATION WINGWALL NO. 4**  
SCALE 1/2" = 1'-0"  
0 1 2



**FLARED END DETAIL FOR 1'-3" CURB**  
SCALE 1" = 1'-0"  
0 1 2

\* - APPROXIMATE EXISTING ELEVATION OR DIMENSION  
F.F. - FAR FACE  
N.F. - NEAR FACE  
EQ.SP. - EQUAL SPACE

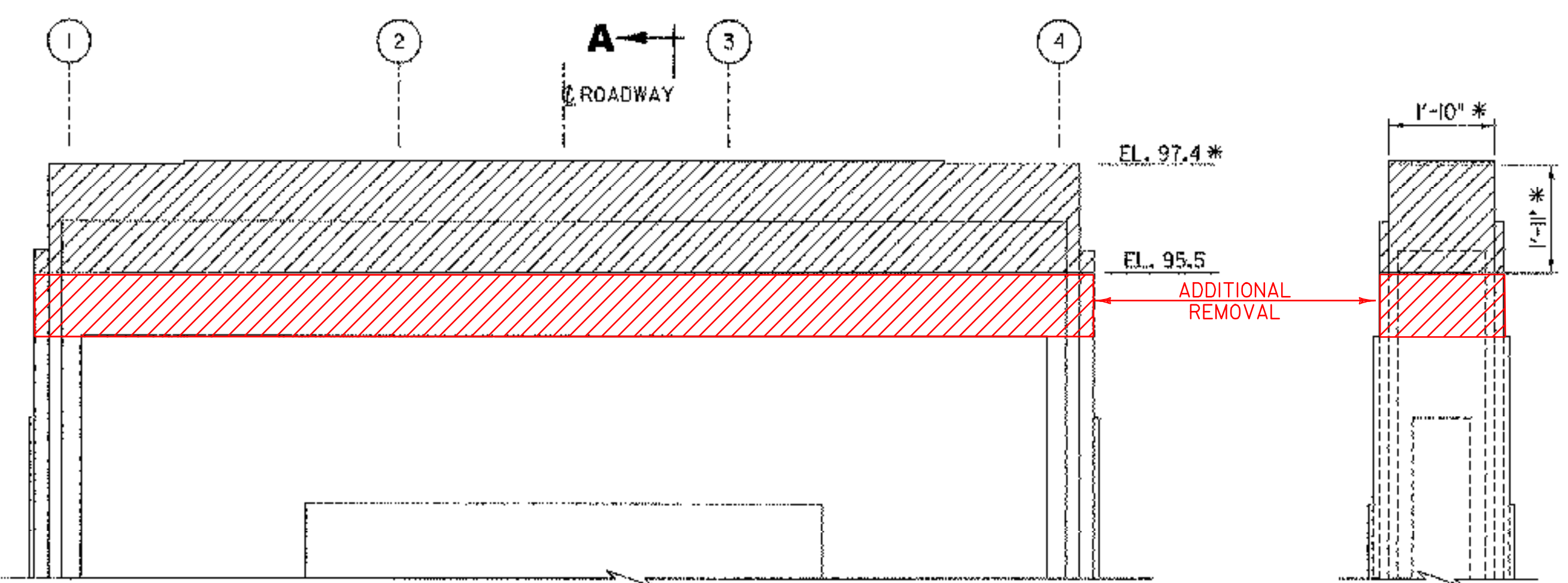
REVISIONS		
NO.	DESCRIPTION	BY & DATE

<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>			
Town Of	CHESTER	Bridge No.	11
Highway No.	TH 5	Log Sta.	-
		Surv. Sta.	-
CHURCH STREET OVER WILLIAMS RIVER			

**DuBois & King**  
INC.

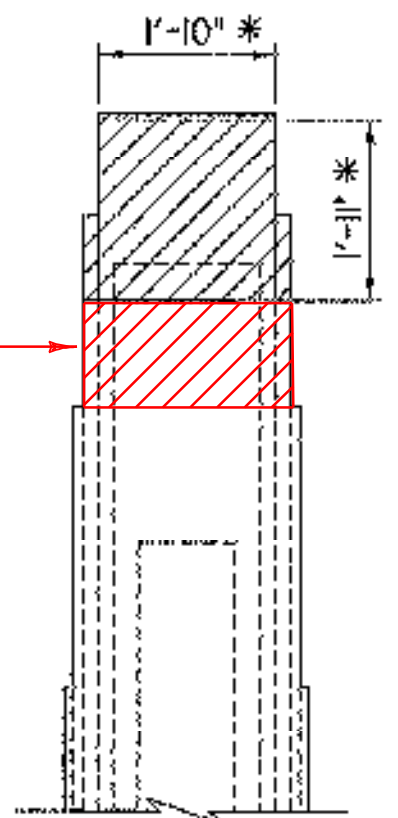
engineering    planning    management    development

<b>WINGWALL DETAILS</b>			
Designed By	B. C. AUSTIN	Drawn By	G. J. WOJCIECHOWSKI
Checked By	J. TUCKER	Date	03/01
		Bridge Design Supervisor	J. TUCKER
		Date	03/01
PROJECT	CHESTER	PROJECT NO.	BHO 1442 (32)
I.G.C. Info.	...zj365dl8.dgn		
D & K DWG NO.	11361	Sheet	18 of 22



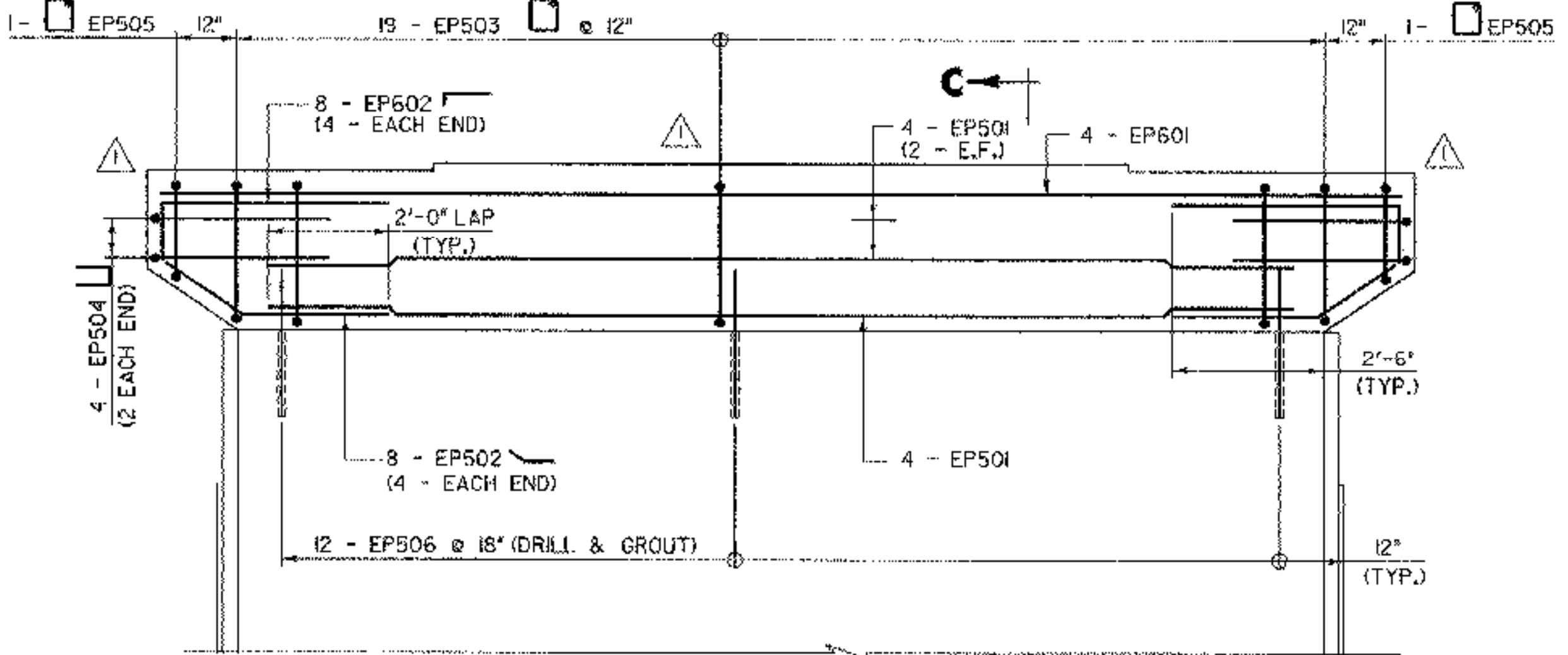
**ELEVATION - REMOVAL**

SCALE 1/2" = 1'-0"  
0 1 2



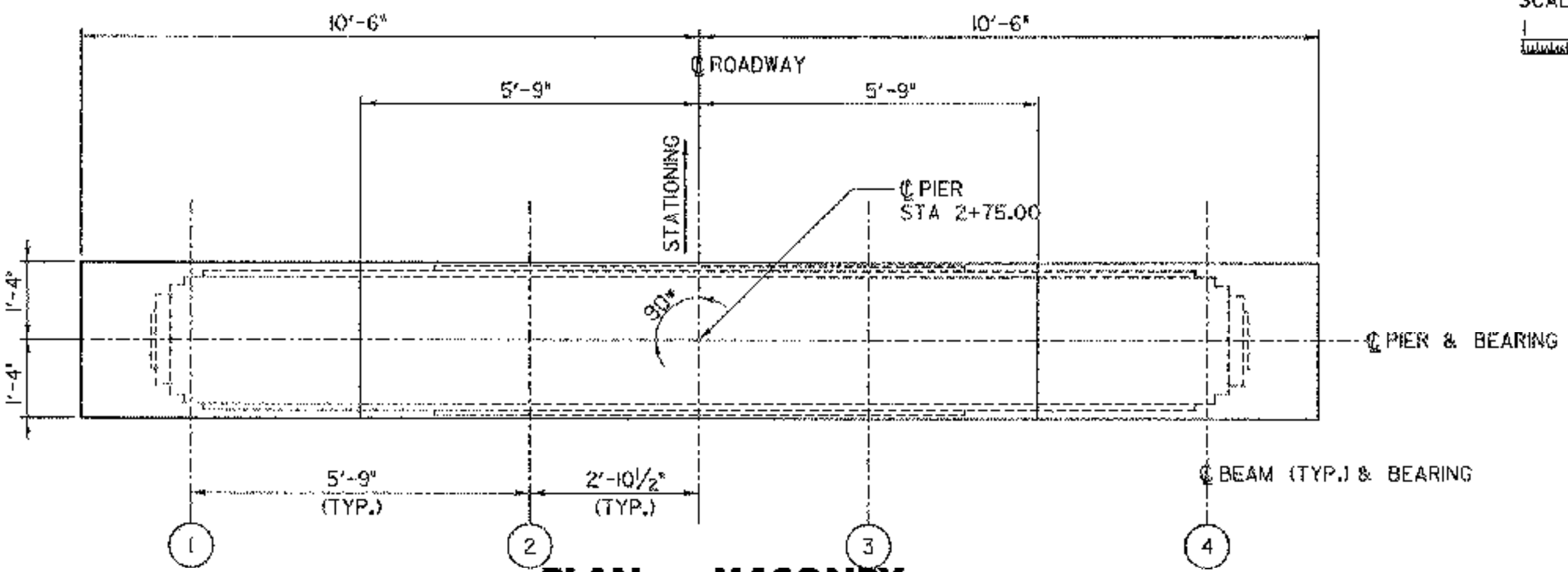
**SECTION A-A**

SCALE 1/2" = 1'-0"  
0 1 2



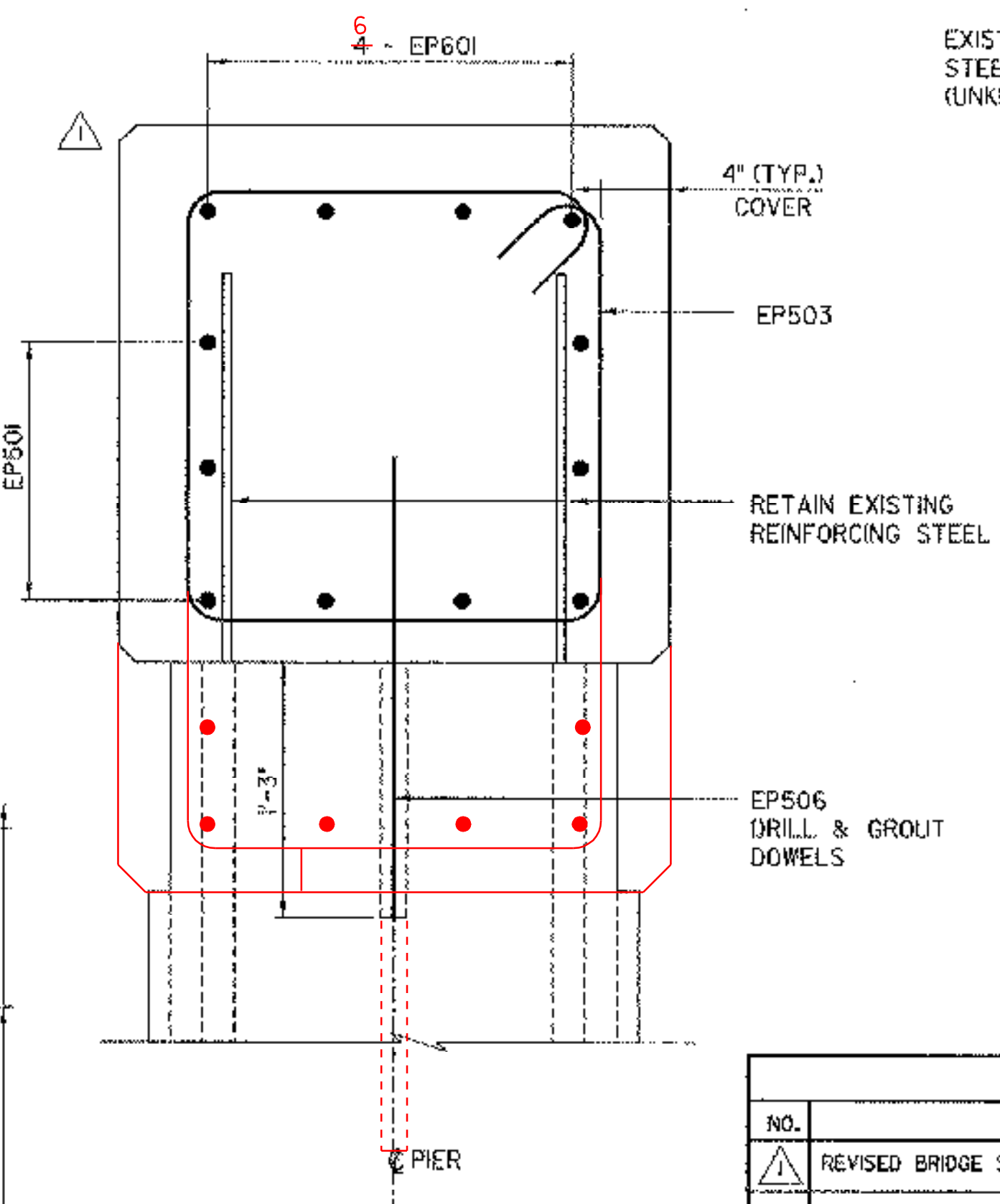
**ELEVATION - REINFORCEMENT**

SCALE 1/2" = 1'-0"  
0 1 2



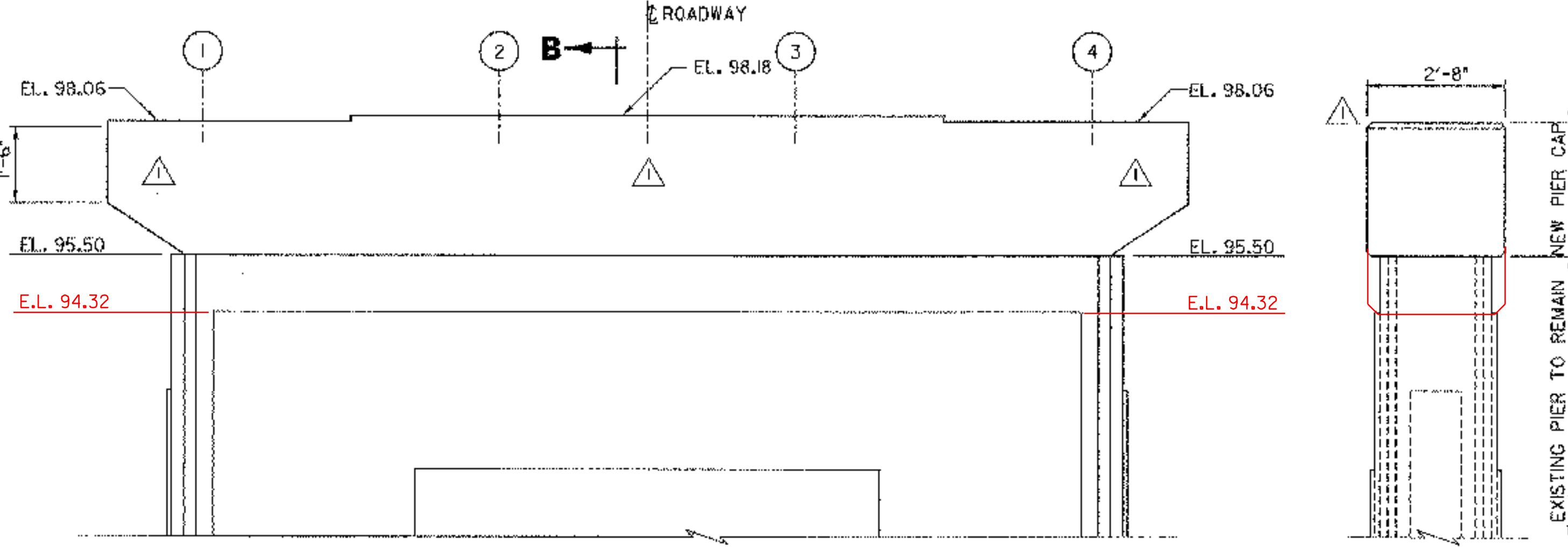
**PLAN - MASONRY**

SCALE 1/2" = 1'-0"  
0 1 2



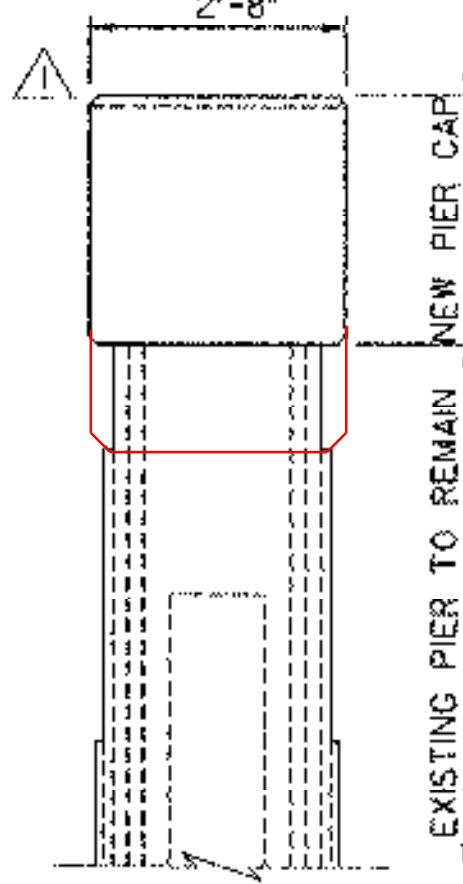
**SECTION C-C**

SCALE 1/2" = 1'-0"  
0 1 2



**ELEVATION - MASONRY**

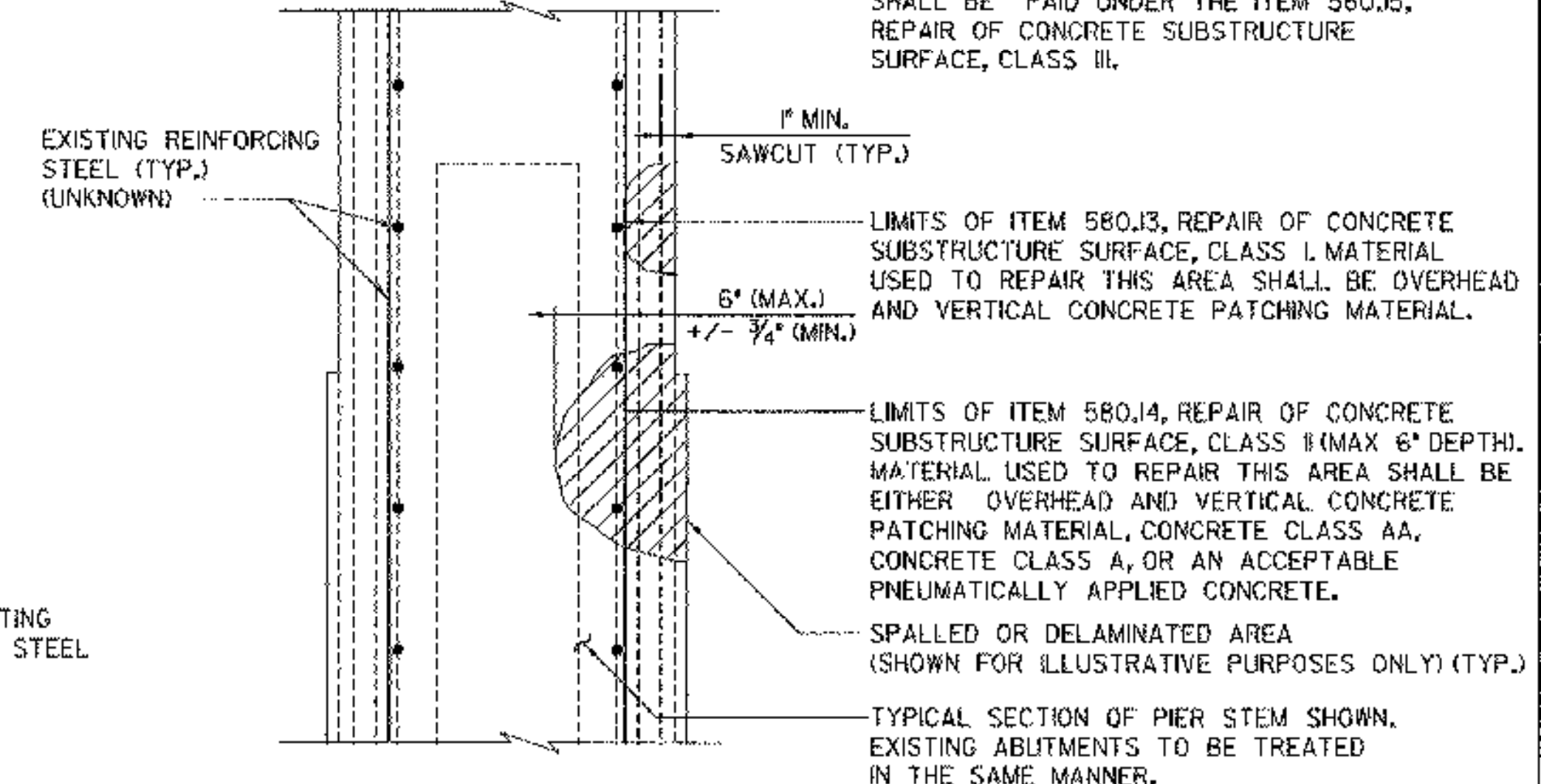
SCALE 1/2" = 1'-0"  
0 1 2



**SECTION B-B**

SCALE 1/2" = 1'-0"  
0 1 2

**NOTE:**  
REMOVAL OF EXISTING CONCRETE TO A DEPTH GREATER THEN SPECIFIED FOR ITEM 580.14 SHALL BE PAID UNDER THE ITEM 580.15, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS III.



**REPAIR OF CONCRETE SUBSTRUCTURE SURFACE CLASS I OR CLASS II**

N.T.S.

■ DENOTES LIMITS OF REMOVAL  
\* APPROXIMATE EXISTING ELEVATION

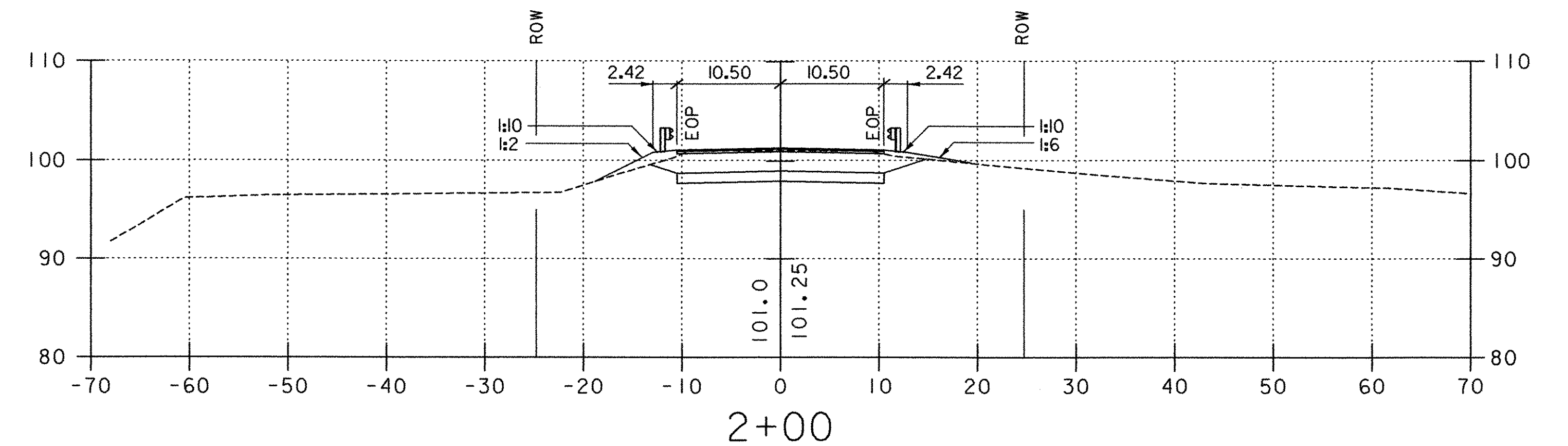
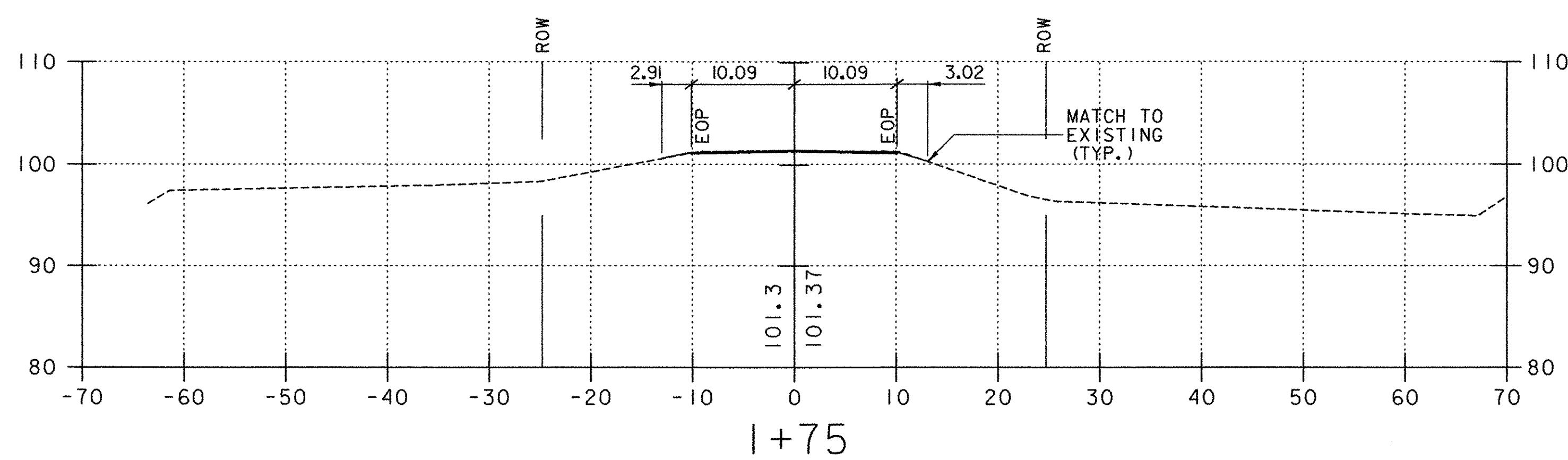
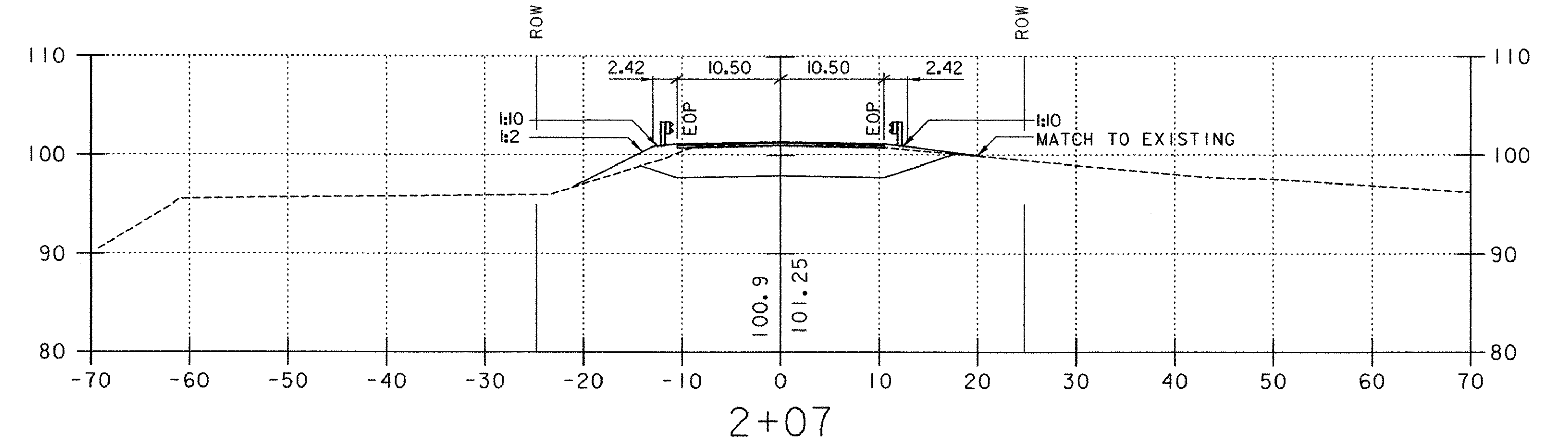
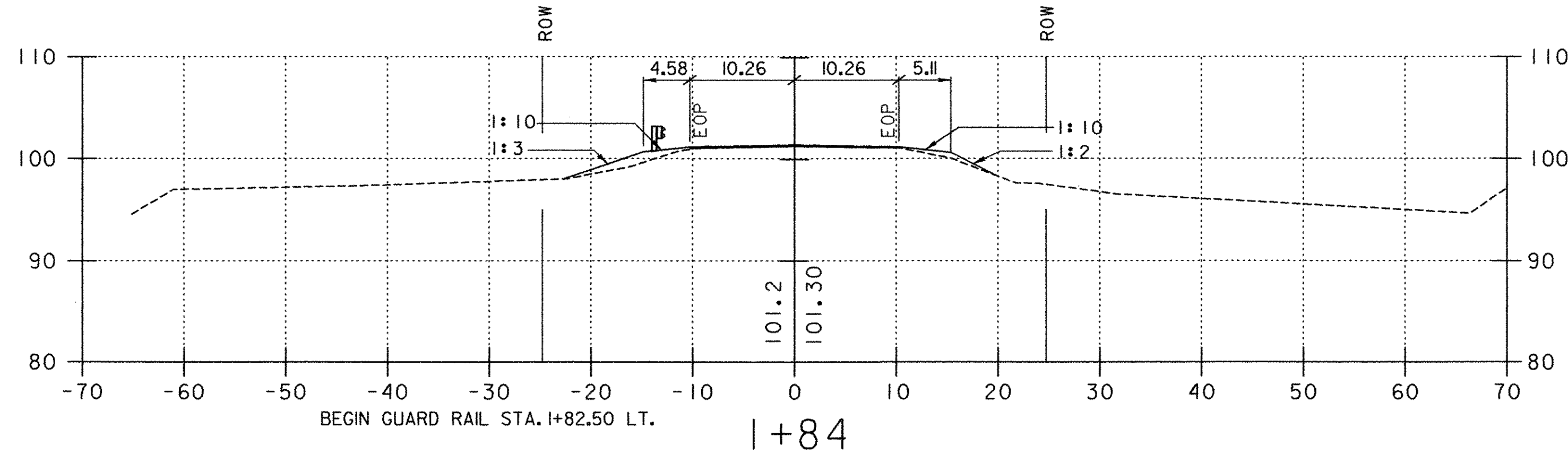
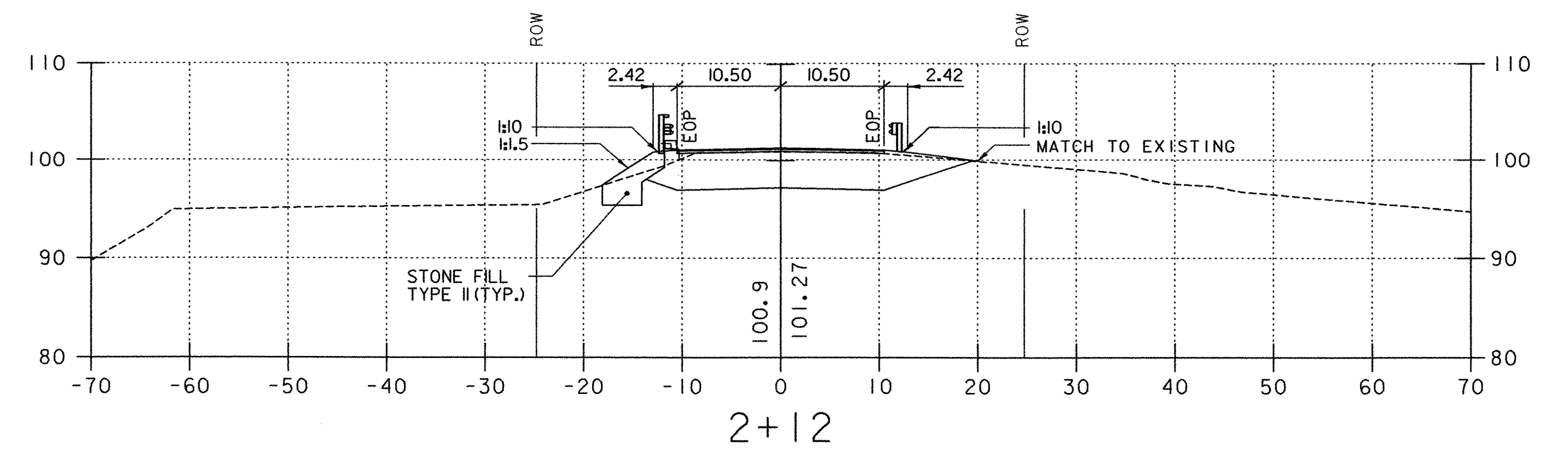
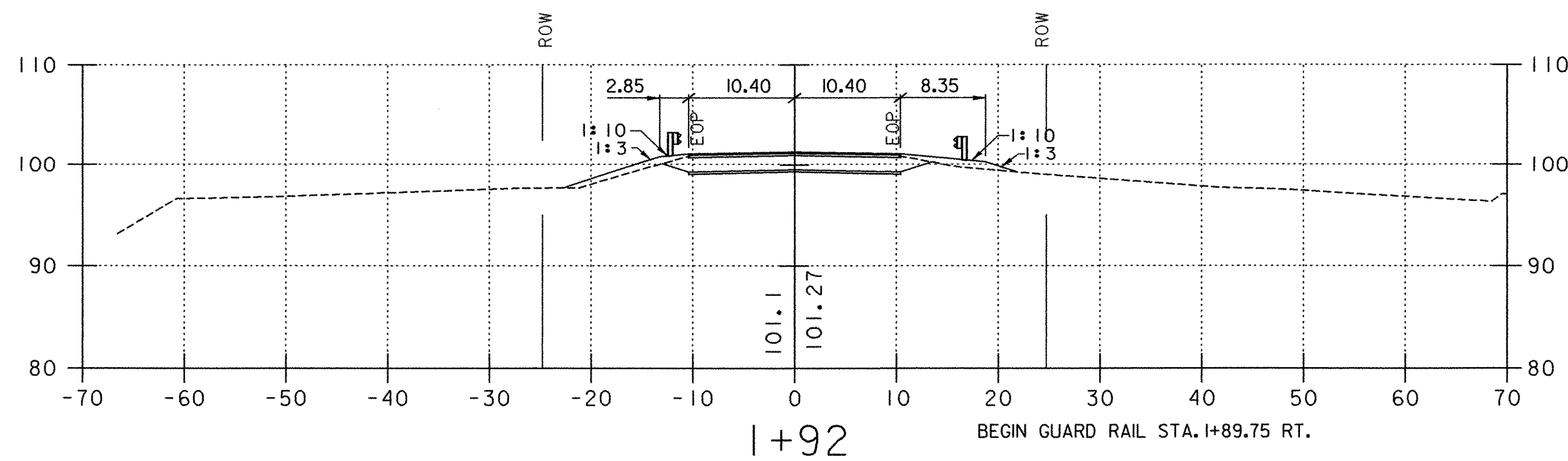
REVISIONS			STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	Town Of	Bridge No.
1	REVISED BRIDGE SEAT ELEVATIONS	APG 2/3/04	CHESTER	11
			Highway No.	Log Sta.
			TH 5	-
			CHURCH STREET OVER WILLIAMS RIVER	
<b>PIER DETAILS</b>				
Designed By J. W. KAMB		Drawn By G. J. WOJCIECHOWSKI		
Checked By J. TUCKER		Bridge Design Supervisor		
Date 03/01		Date 03/01		
PROJECT CHESTER			PROJECT NO. BHO 1442 (32)	
I.G.C. Info. ...zj365d19.dgn				
D & K DWG NO. 11362			Sheet 19 of 22	



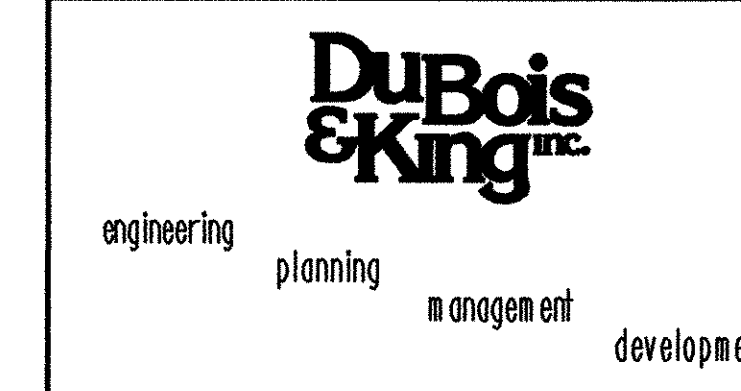
engineering planning management development

02/10/2004

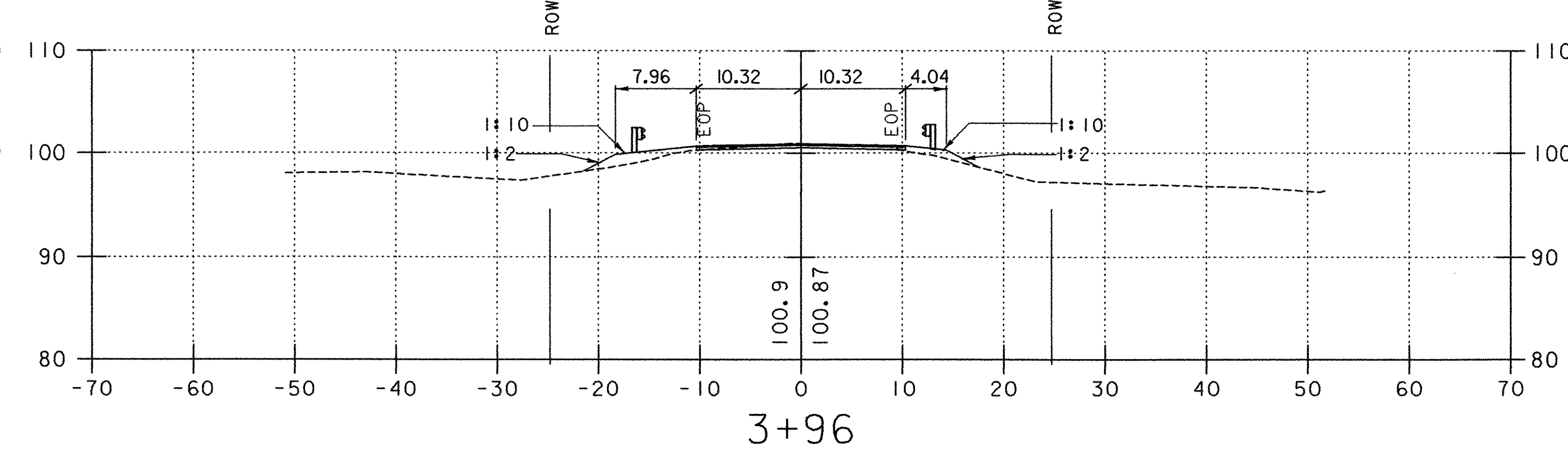
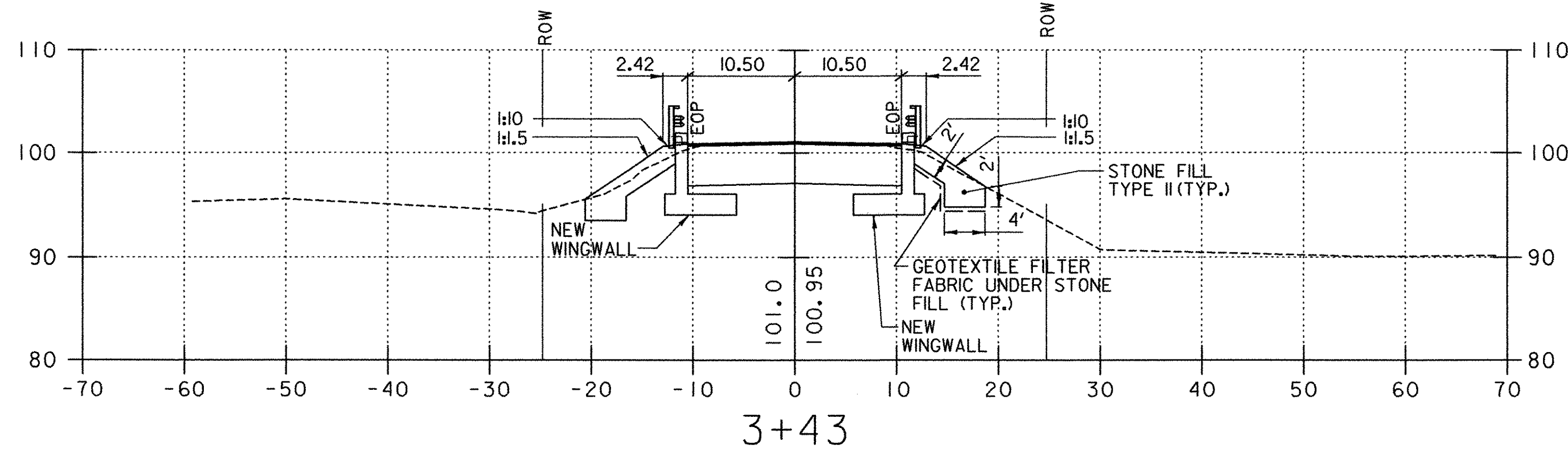
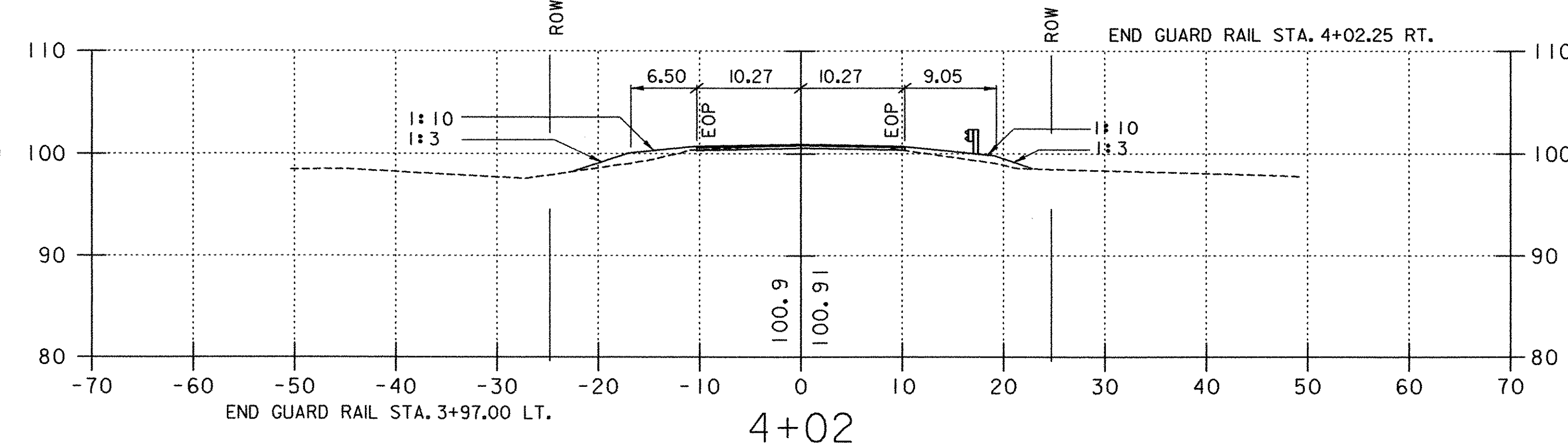
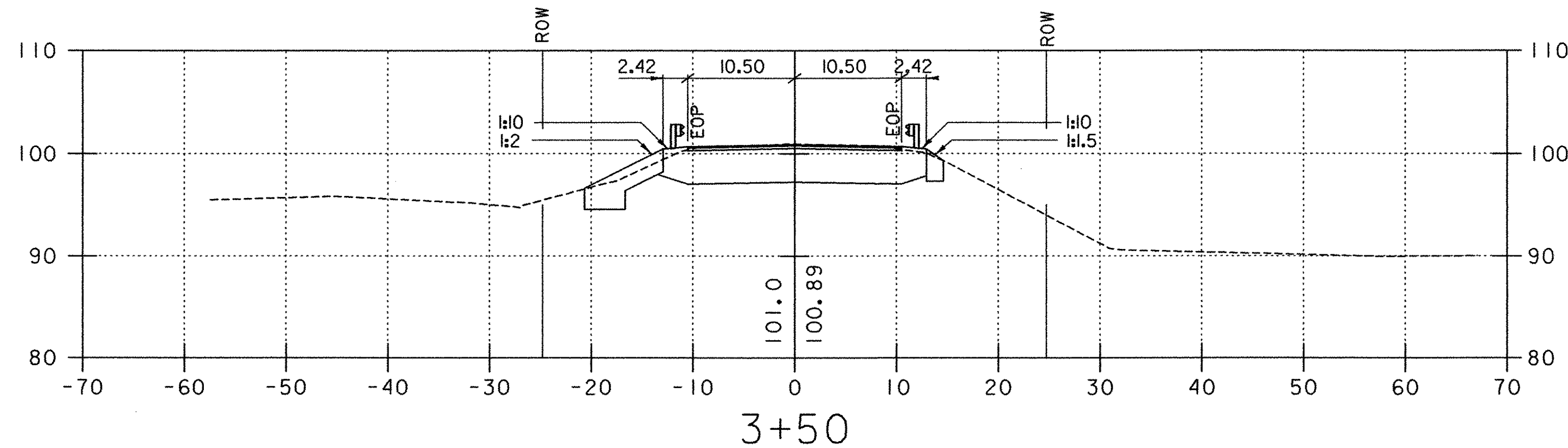
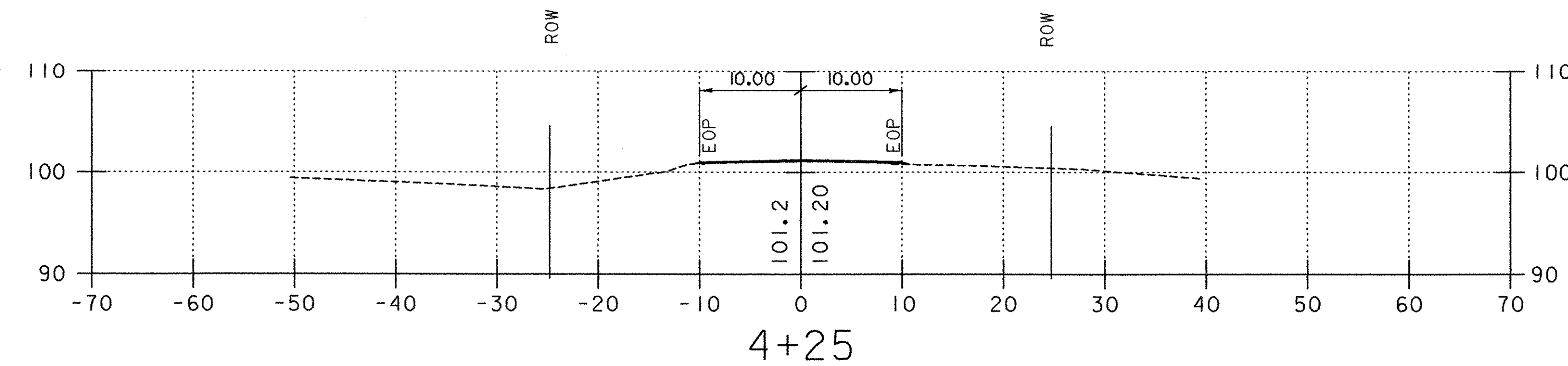
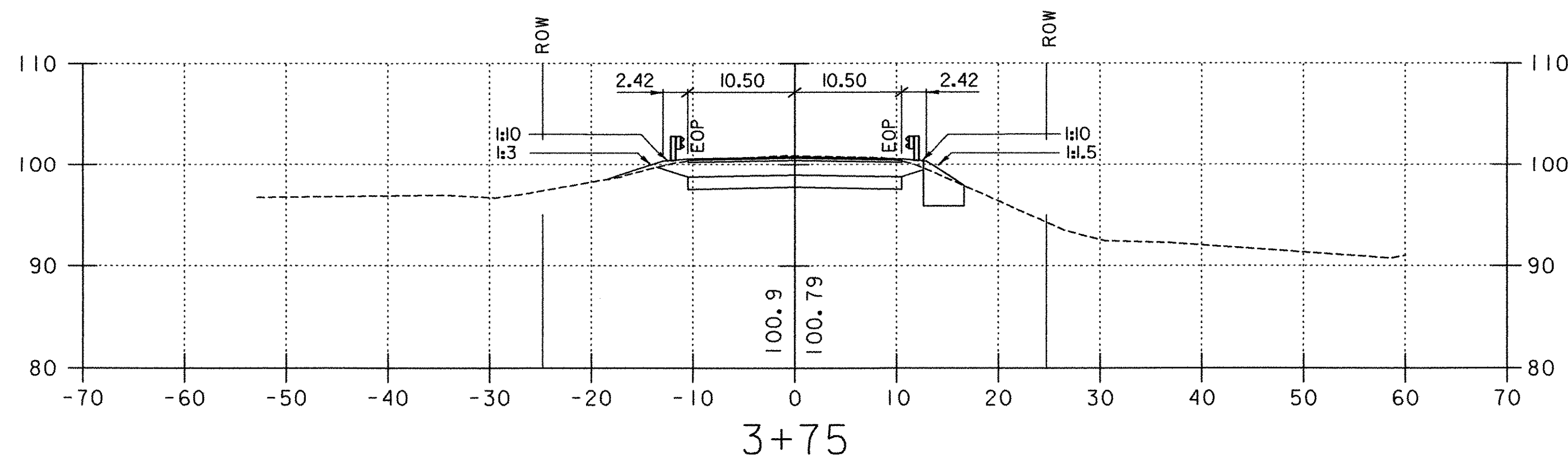




REVISIONS			STATE OF VERMONT AGENCY OF TRANSPORTATION	
NO.	DESCRIPTION	BY & DATE	Town Of	Bridge No.
			CHESTER	11
			Highway No. TH 5	Log Sta. - Surv. Sta. -
CHURCH STREET OVER WILLIAMS RIVER				
<b>ROADWAY CROSS SECTIONS</b>				
Designed By G. J. WOJCIECHOWSKI			Drawn By G. J. WOJCIECHOWSKI	
Checked By J. TUCKER			Bridge Design Supervisor J. TUCKER	
Date 03/01			Date 03/01	
PROJECT CHESTER			PROJECT NO. BHO 1442 (32)	
I.G.C. Info. ...zj36521.dgn				
D & K DWG NO. 11364			Sheet 21 of 22	

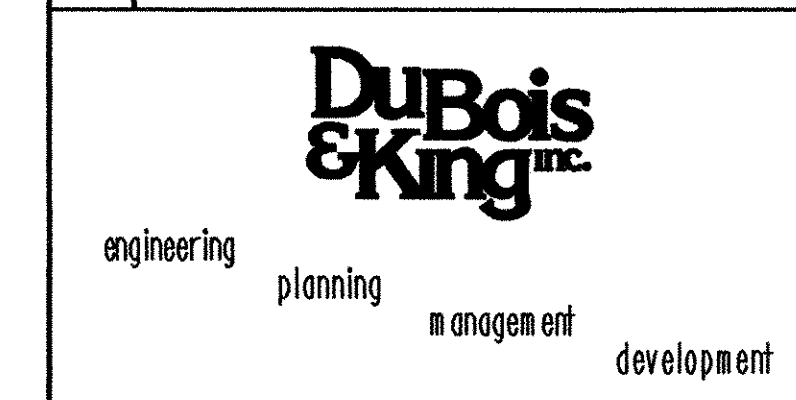


02/03/2004



REVISIONS		
NO.	DESCRIPTION	BY & DATE

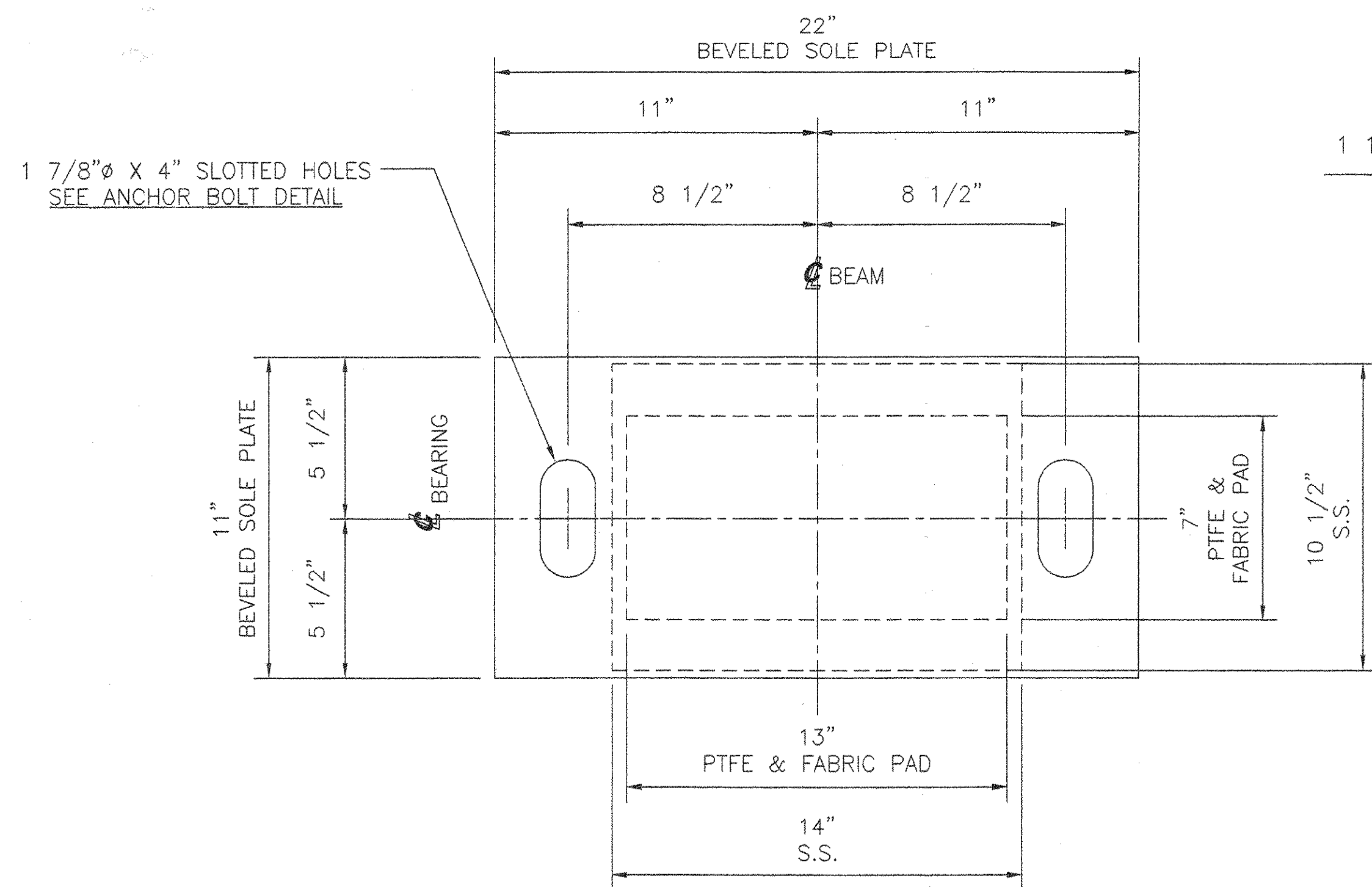
<b>STATE OF VERMONT AGENCY OF TRANSPORTATION</b>		
Town Of	CHESTER	Bridge No. 11
Highway No.	TH 5	Log Sta. - Surv. Sta. -
CHURCH STREET OVER WILLIAMS RIVER		



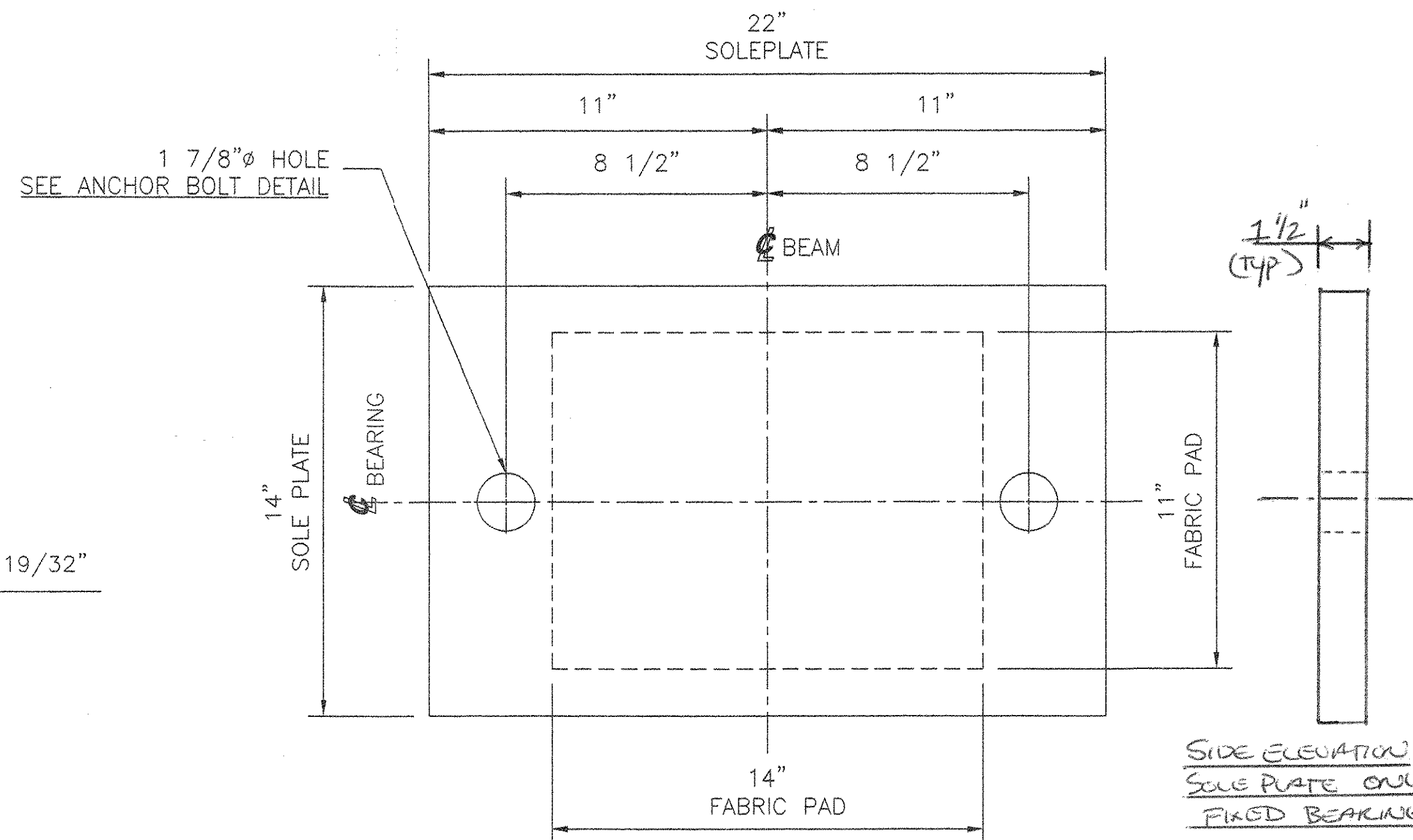
<b>ROADWAY CROSS SECTIONS</b>	
Designed By G. J. WOJCIECHOWSKI	Drawn By G. J. WOJCIECHOWSKI
Checked By J. TUCKER	Bridge Design Supervisor J. TUCKER
Date 03/01	Date 03/01
PROJECT CHESTER	PROJECT NO. BHO 1442 (32)
I.G.C. Info. ...zj36521.dgn	
D & K DWG NO. 11365	Sheet 22 of 22

02/03/2004

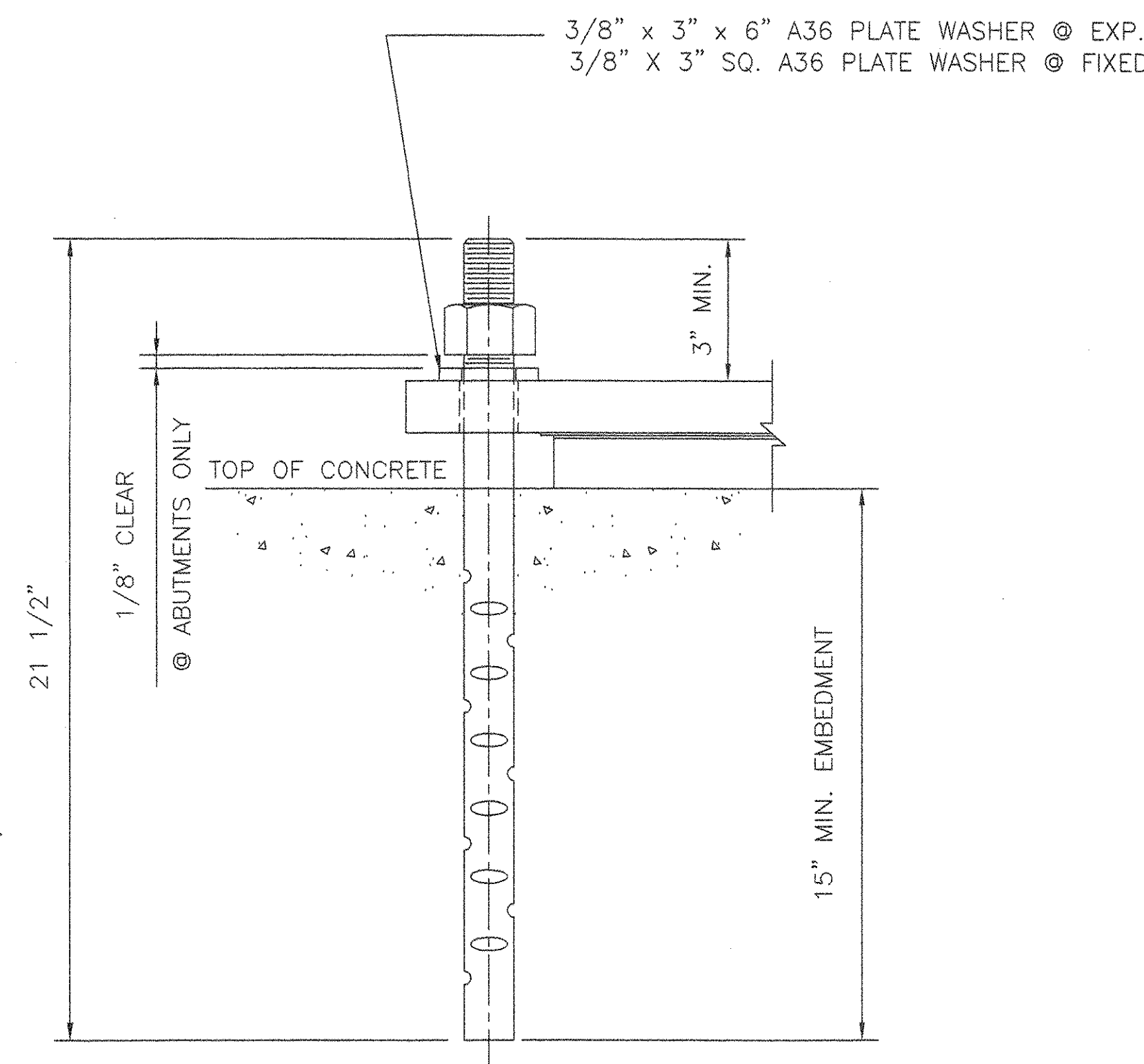
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SIDE ELEVATION  
SOLE PLATE ONLY  
EXPANSION BEARING

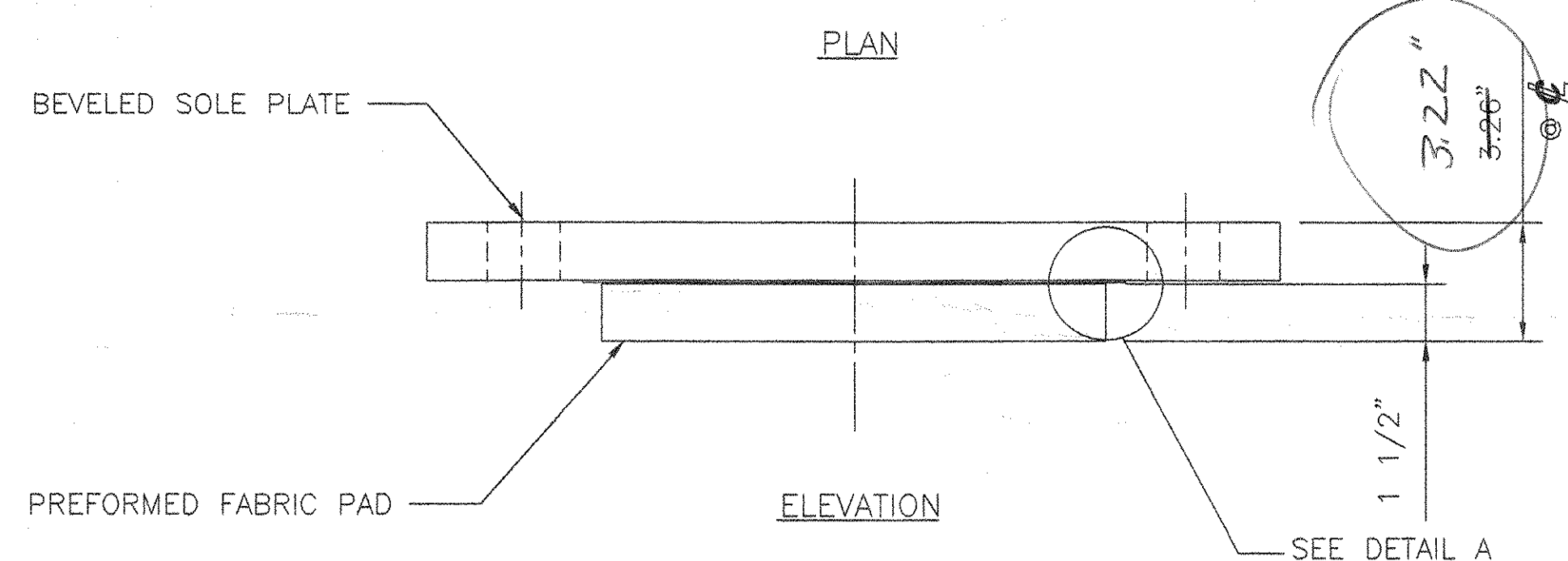


SIDE ELEVATION  
SOLE PLATE ONLY  
FIXED BEARING

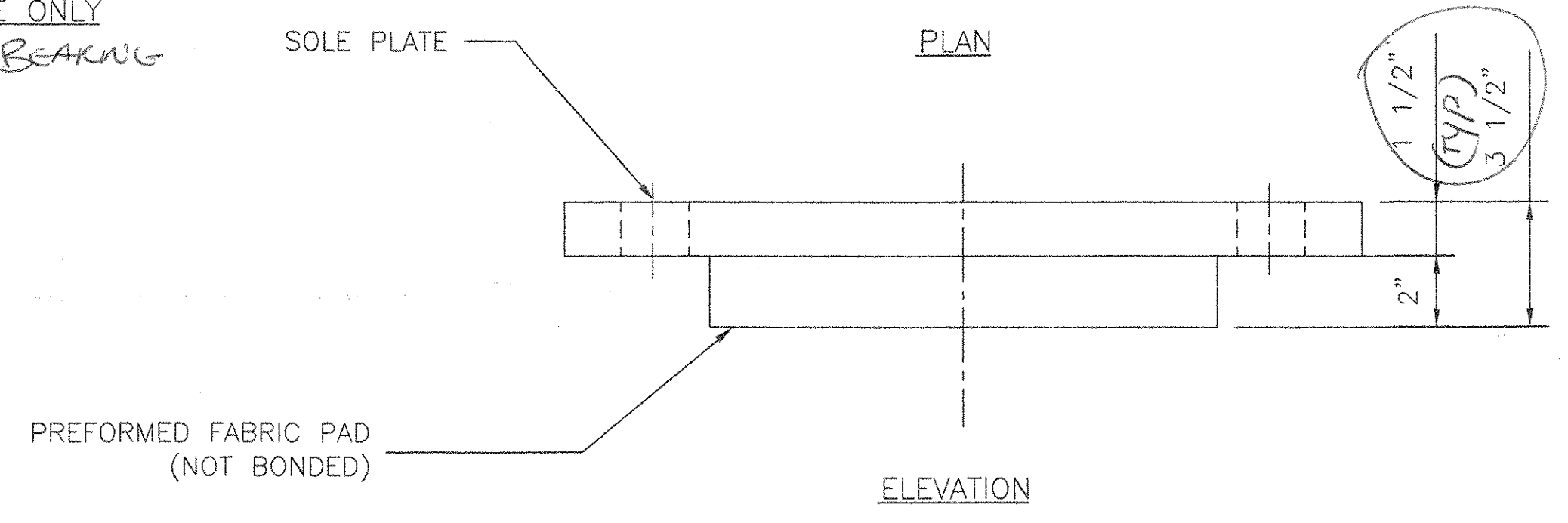


ANCHOR BOLT DETAIL

1 1/2" Ø X 21 1/2" LG. ASTM F1554 GR. 55 SWEDGED ANCHOR BOLT W/4" OF THREADS ONE END, ONE ASTM A563 HEAVY HEX NUT & ONE A36 PLATE WASHER. ALL GALV.



EXPANSION BEARING  
LOCATE AT ABUTMENTS 1 AND 2  
QTY - 8



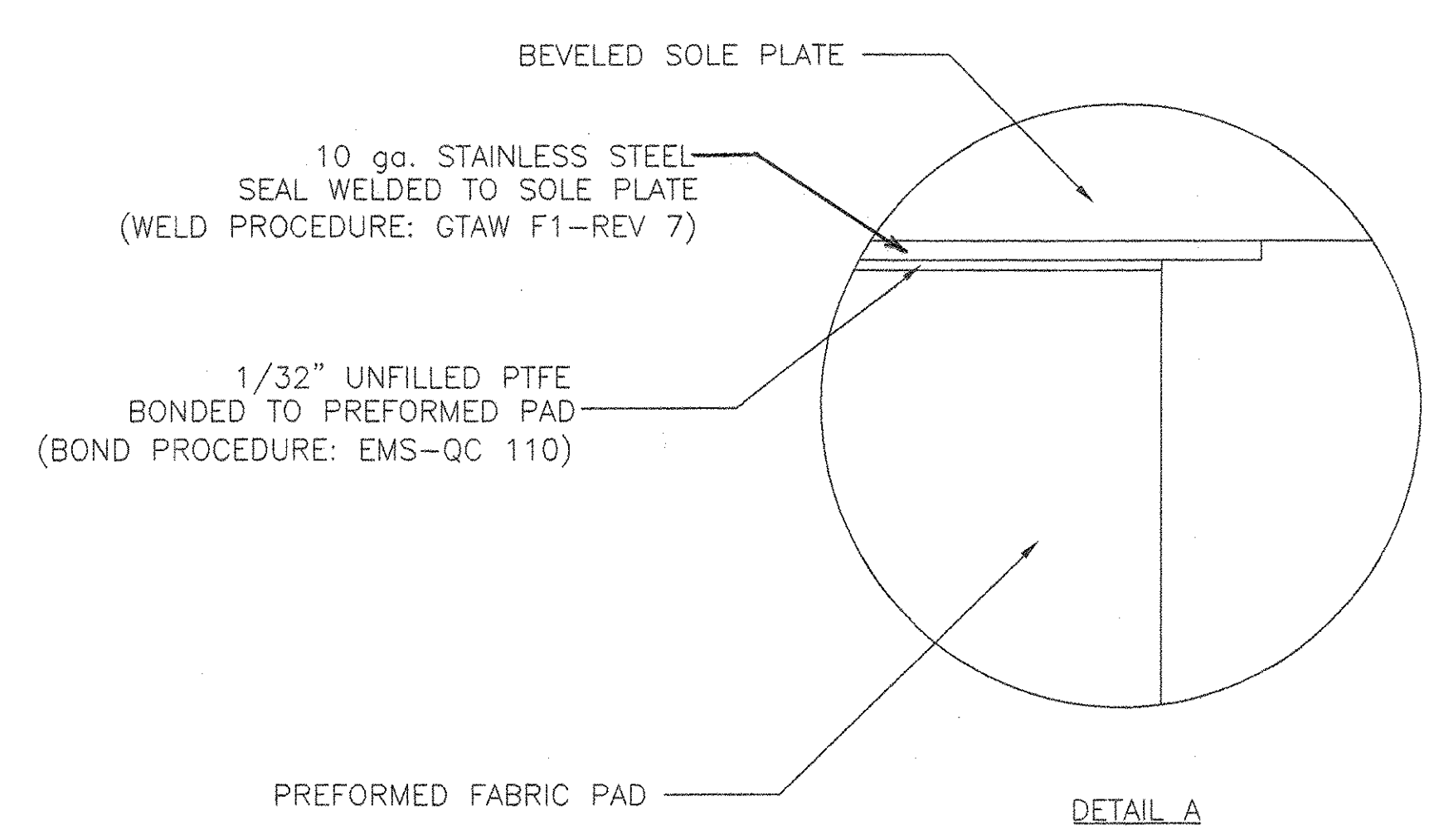
FIXED BEARING  
LOCATE AT PIER  
QTY - 4

BEARING DATA AND NOTES

- STEEL - ASTM A709 GR36 ZINC METALLIZED AND PAINTED WITH AN APPROVED SEALER
- PTFE - ASTM D4894 VIRGIN UNFILLED
- STAINLESS STEEL - ASTM A240 TYPE 304 WITH 30 RMS FINISH OR LESS ON SLIDING SURFACE.
- PREFORMED FABRIC PADS - AASHTO 18.4.9.1 DIV. 2
- ANCHOR BOLTS - F1554 GR55 SWEDGED AND GALVANIZED
- BEARINGS SHALL BE SHIPPED AS COMPLETE UNITS AND SHALL BE WRAPPED FOR PROTECTION DURING TRANSIT AND STORAGE.
- BEARINGS SHALL BE MARKED FOR IDENTIFICATION WITH LOCATION.
- COSMEC, INC. REPRESENTATIVE: MR. MATT McANDREWS (508) 668-6600
- ⊗ INDICATES THICK END OF SOLE PLATE
- LOCATION OF FABRICATION: 70 SOUTH ST. WALPOLE, MA 02081
- PREFORMED BEARING PAD DESIGN CRITERIA:
  - ALLOWABLE BEARING PRESSURE ON CONCRETE = 1000 PSI
  - MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIAN
  - HORIZONTAL CAPACITY SHALL BE A MINIMUM OF 6% OF THE VERTICAL LOAD
  - DESIGN LOAD PER BEARING: ABUTMENTS = 90 KIPS & PIER = 150 KIPS

- ALL BEARING DEVICES SHALL BE METALIZED AS PER SUBSECTION 531.04 (B) AND 506.15 (b) OF THE GENERAL SPECIAL PROVISIONS. AREAS OF METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATIONS 513 WHICH REFERENCES ASTM A760.
- ALL EDGE CORNERS SHALL BE ROUNDED TO 1/16" RADIUS.
- PROTECT PTFE AND STAINLESS STEEL SURFACES FROM WELD SPATTER, DIRT, OR ANY OTHER FOREIGN MATERIALS.
- BEARINGS MUST NOT BE DISASSEMBLED.

THE CONTRACTOR SHALL VERIFY THAT ALL ASTM SPECIFICATIONS NOTED ON THESE PLANS CORRESPONDS TO THE APPROPRIATE AASHTO SPECIFICATIONS REFERENCED IN THE STANDARD SPECIFICATIONS.



DETAIL A

ACCEPTED	ACCEPTED AS CORRECTED
REJECTED, REVISE AND RESUBMIT	REJECTED, UNACCEPTABLE

Checking is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor, by approving and submitting these documents, verifies their accuracy as stipulated on the Contractor's Shop Drawing Stamp.

Dubois and King  
Date 6/10/04 By JEA

STATE OF VERMONT  
AGENCY OF TRANSPORTATION  
BRIDGE NO. 11  
HIGHWAY TH 5  
BRIDGE ON CHURCH STREET  
OVER WILLIAMS RIVER  
TOWN OF CHESTER  
PROJECT NO. BHO 1442 (32)

COSMEC, INC. 70 SOUTH STREET  
WALPOLE, MA 02081

SCALE: 1/4" = 1" DRAWN BY: DCW CHECKED BY: PJM  
DATE: 05.21.04 DATE: 05.21.04

COSMEC PREFORMED FABRIC PAD BEARINGS

REV.	BY:	DATE:	CHKD BY:	DATE:

CUSTOMER: F.W. WHITCOMB S.D. NUMBER: 60063 DRAWING NUMBER: 4187 REV.:

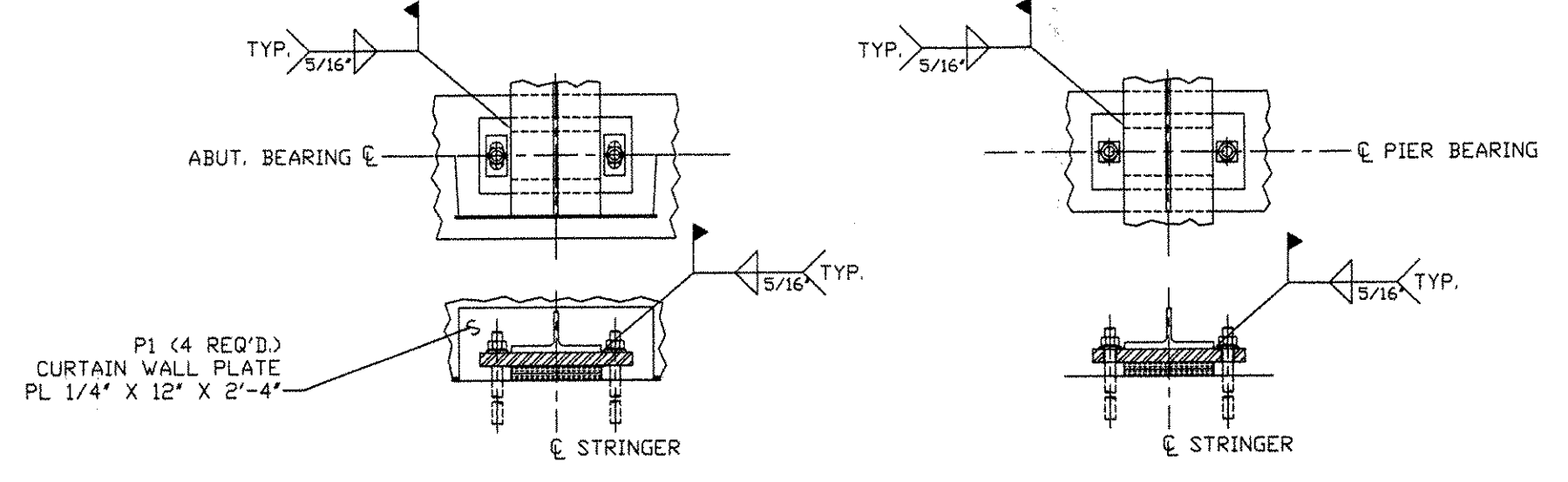
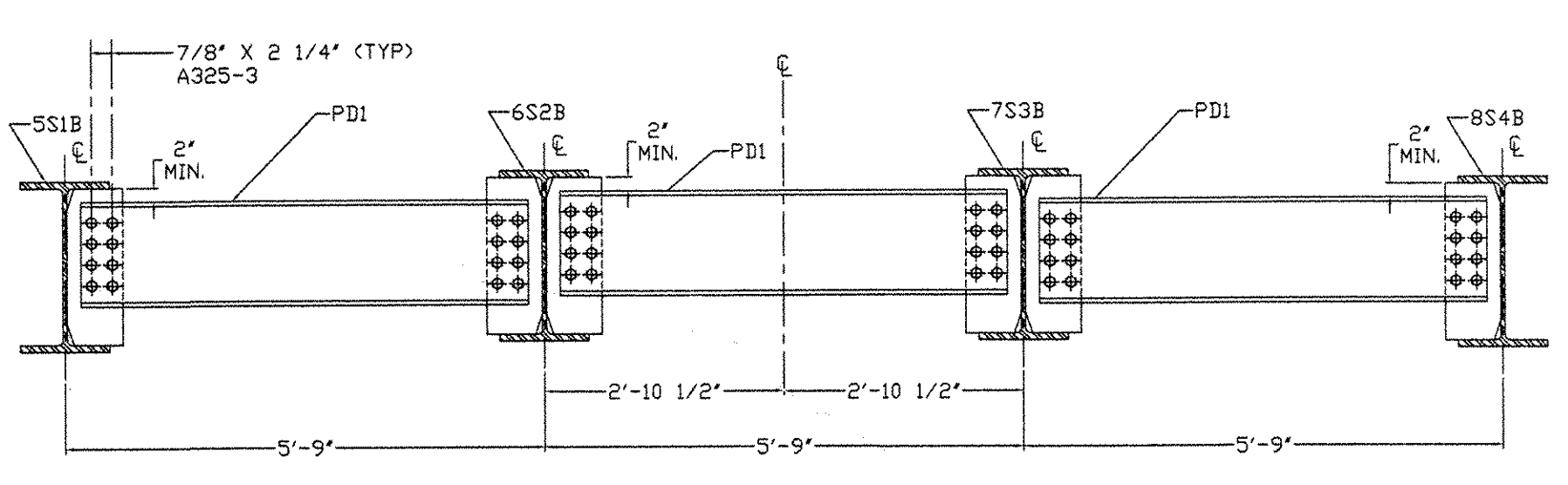
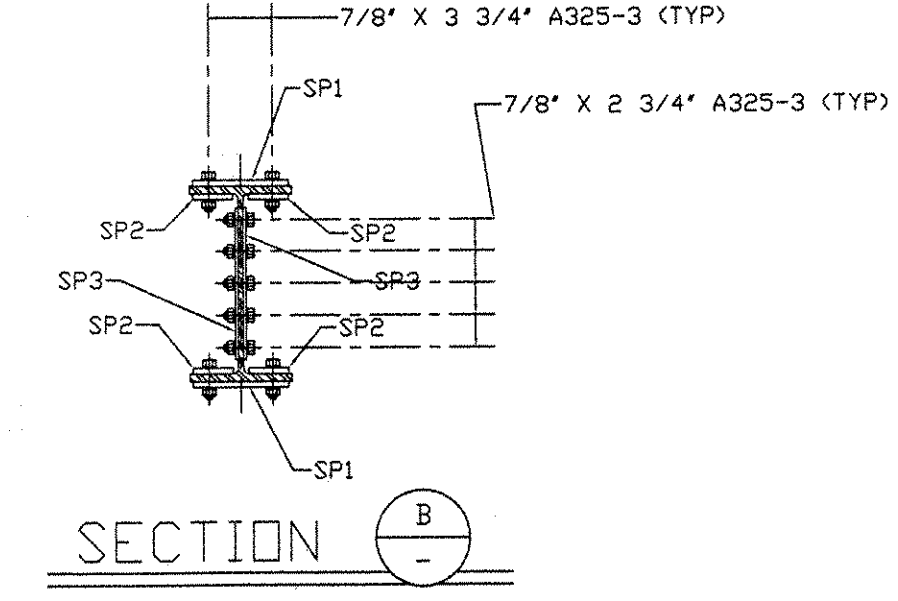
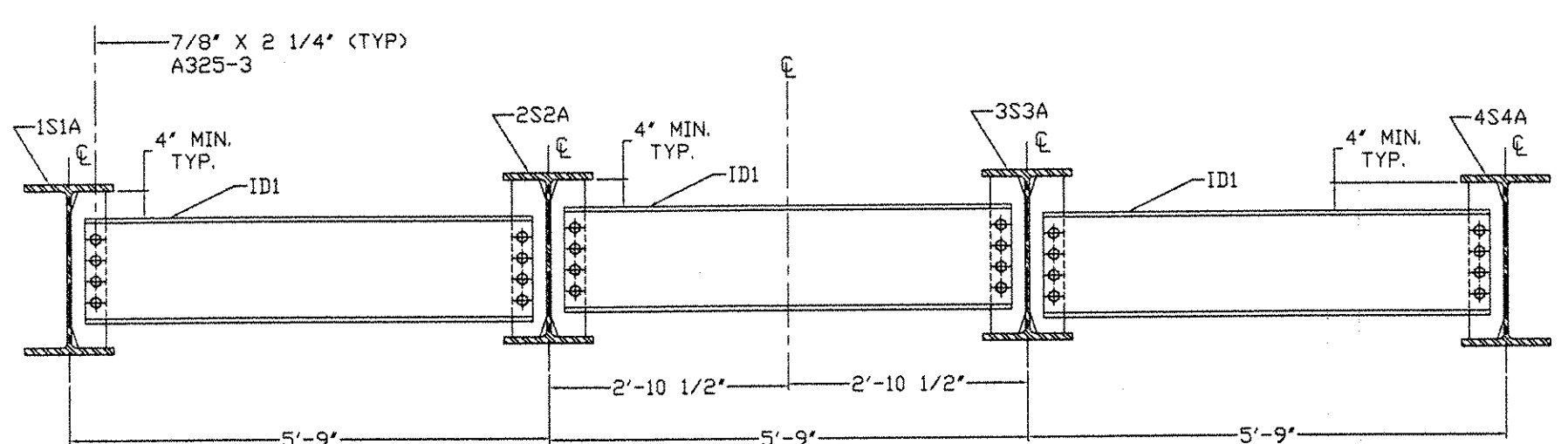
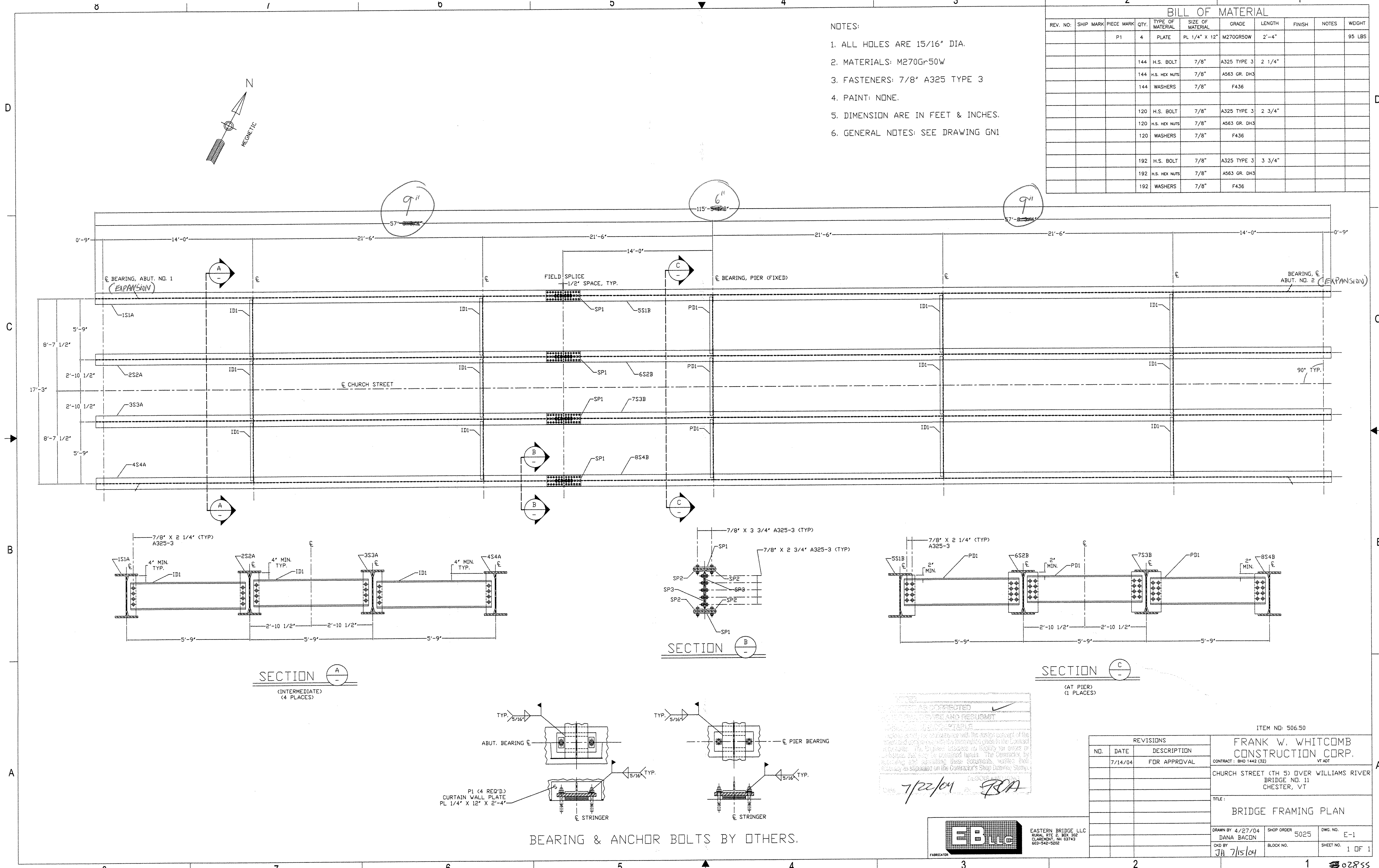




BILL OF MATERIALS WAS NOT CHECKED BY THE REVIEWER. TYPICAL ALL SHEETS

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270Gr50W
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GN1

BILL OF MATERIAL												
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT		
		P1	4	PLATE	PL 1/4" X 12"	M270GR50W	2'-4"			95 LBS		
			144	H.S. BOLT	7/8"	A325 TYPE 3	2 1/4"					
			144	H.S. HEX NUTS	7/8"	A563 GR. DHS						
			144	WASHERS	7/8"	F436						
			120	H.S. BOLT	7/8"	A325 TYPE 3	2 3/4"					
			120	H.S. HEX NUTS	7/8"	A563 GR. DHS						
			120	WASHERS	7/8"	F436						
			192	H.S. BOLT	7/8"	A325 TYPE 3	3 3/4"					
			192	H.S. HEX NUTS	7/8"	A563 GR. DHS						
			192	WASHERS	7/8"	F436						



AS CORRECTED  
 APPROVED AND RESUBMIT  
 7/22/04  
 JBA

REVISIONS			ITEM NO: 506.50	
NO.	DATE	DESCRIPTION		
7/14/04		FOR APPROVAL	FRANK W. WHITCOMB CONSTRUCTION CORP.	
			CONTRACT: BHD 1442 (32)	
			CHURCH STREET (TH S) OVER WILLIAMS RIVER	
			BRIDGE NO. 11	
			CHESTER, VT	
TITLE:			BRIDGE FRAMING PLAN	
DRAWN BY: 4/27/04		SHOP ORDER	5025	DWG. NO. E-1
DANA BACON		BLOCK NO.		SHEET NO. 1 OF 1
CHK BY: 7/15/04				

EASTERN BRIDGE LLC  
 RURAL PTC 2, BOX 302  
 CLAREMONT, NH 03743  
 603-842-9882



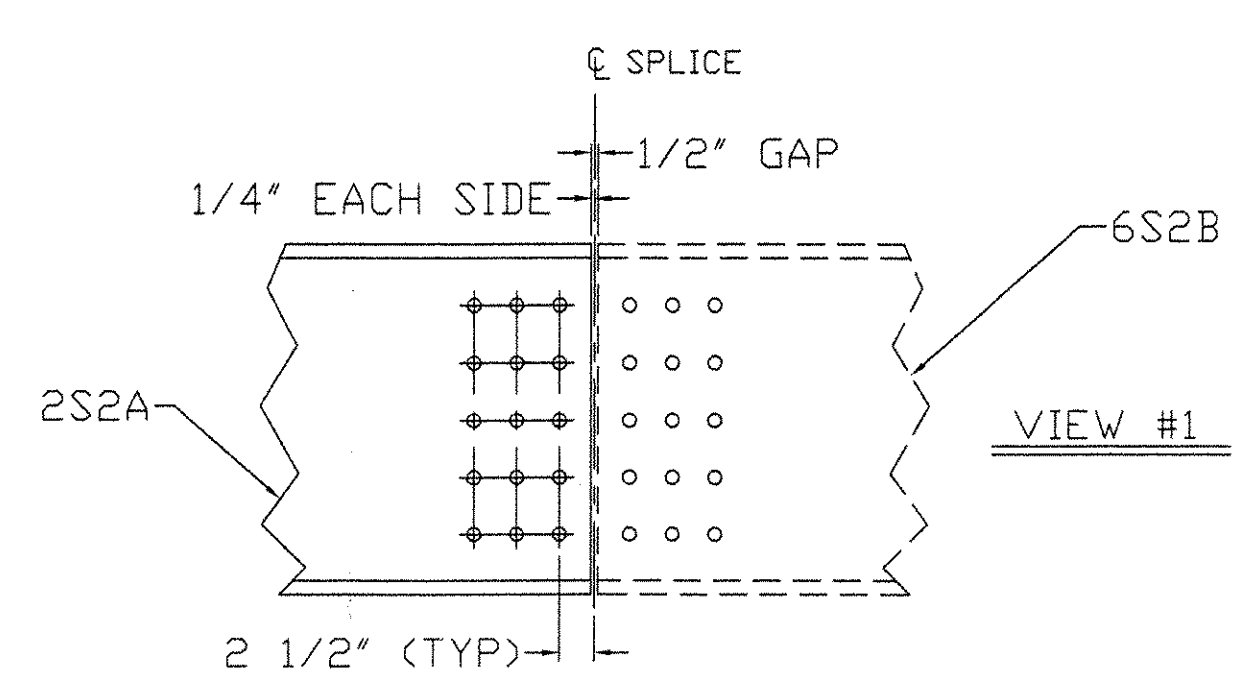
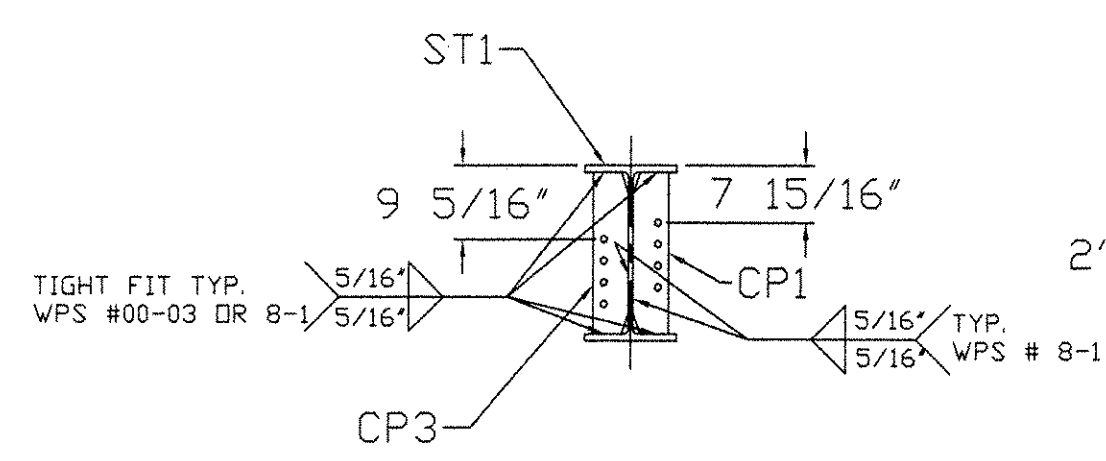
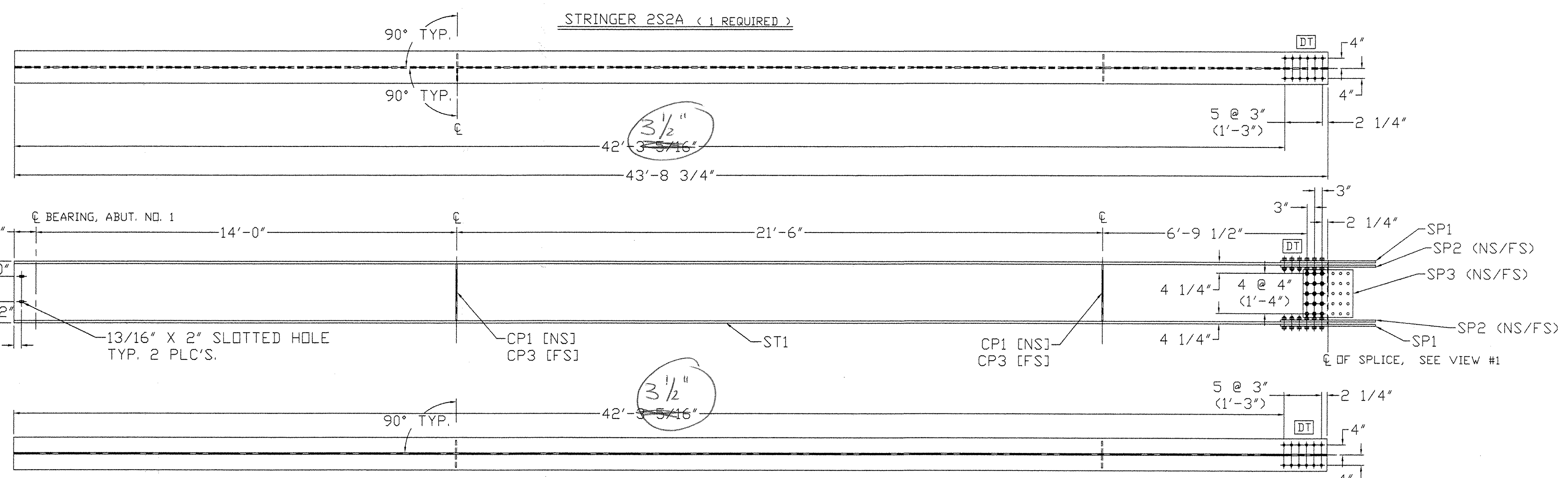
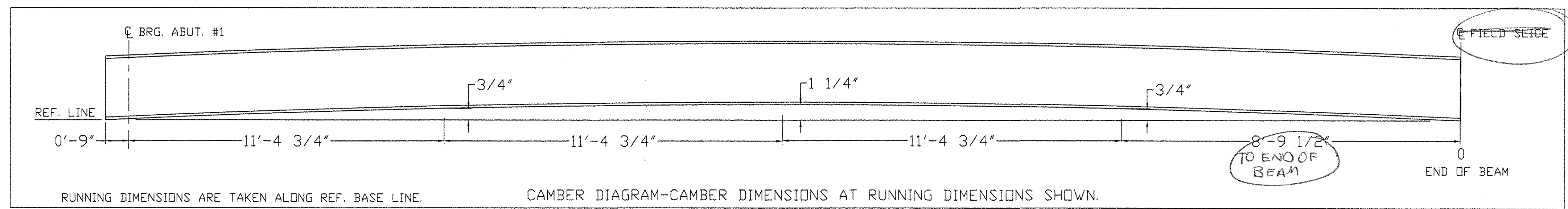
8 7 6 5 4 3 2 1

W24 X 131	
W	2'-0 1/2" X 5/8"
F	1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270G+50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

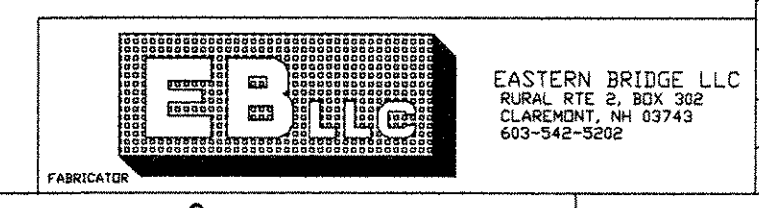
BILL OF MATERIAL										
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT
	2S2A	ST1	1	W	W24 X 131	M270G50W TZ	43'-8 3/4"		CVN	5729#
	2S2A	CP1	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	2S2A	CP3	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	2S2A	SP1	2	PLATE	PL 3/4" X 12"	M270G50W	3'-2"		CVN	194#
	2S2A	SP2	4	PLATE	PL 3/4" X 5"	M270G50W	3'-2"		CVN	162#
	2S2A	SP3	2	PLATE	PL 3/8" X 19"	M270G50W	1'-8"		CVN	81#

6230



ACCEPTED AS SHOWN  
 ACCEPTED AS SHOWN  
 REVISIONS REQUIRED, REVISE AND RESUBMIT  
 OTHERWISE UNACCEPTABLE  
 Checking a copy for compliance with the design concept of the Project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions not only in the contract herein. The Contractor is approving and accepting these documents, certifying that they are accurate as stipulated on the Contractor's Shop Drawing. Signed: 7/22/09 [Signature]

REVISIONS			ITEM NO: 506.50	
NO.	DATE	DESCRIPTION		
7/14/04		FOR APPROVAL	FRANK W. WHITCOMB CONSTRUCTION CORP. CONTRACT: BHO 1442 (32) VT ADT	
			CHURCH STREET (TH S) OVER WILLIAMS RIVER BRIDGE NO. 11 CHESTER, VT	
			TITLE: STRINGER DETAIL 2S2A	
DRAWN BY 4/23/04		SHOP ORDER 5025	DWC NO. 2	
DANA BACIN		BLOCK NO.	SHEET NO. 1 OF 1	
CKD BY 7/15/04				

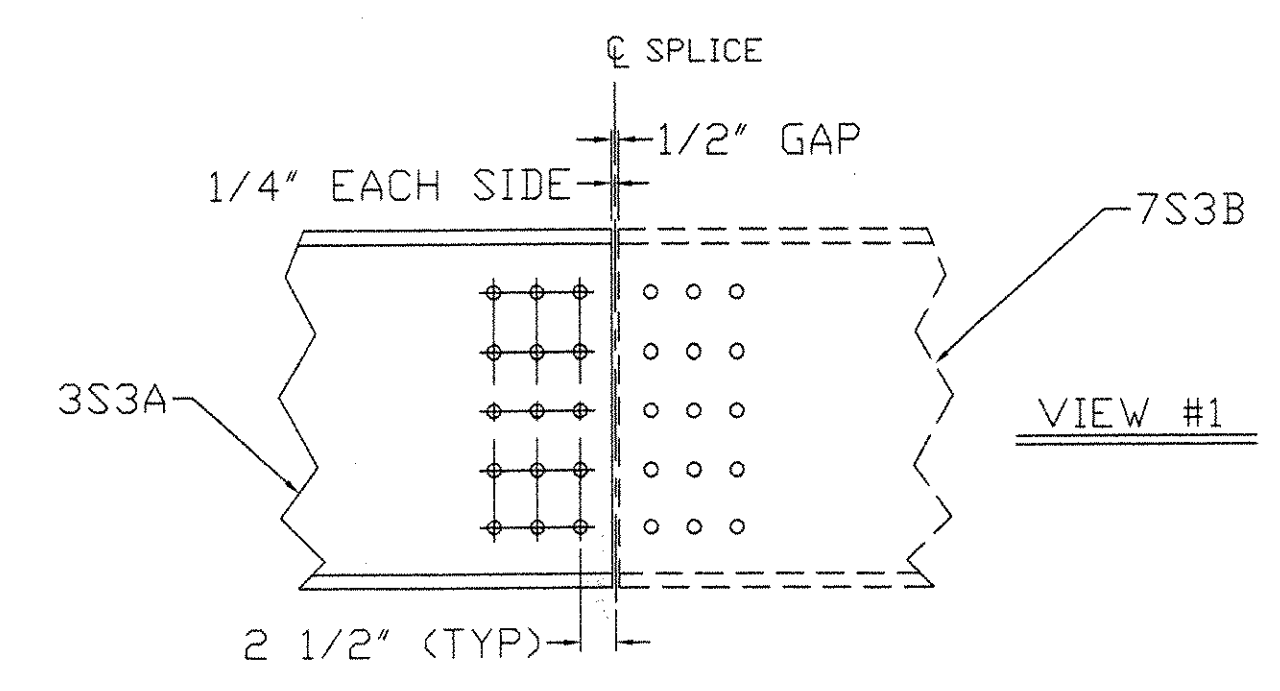
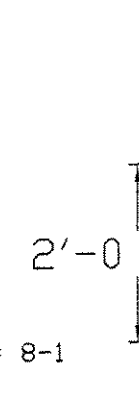
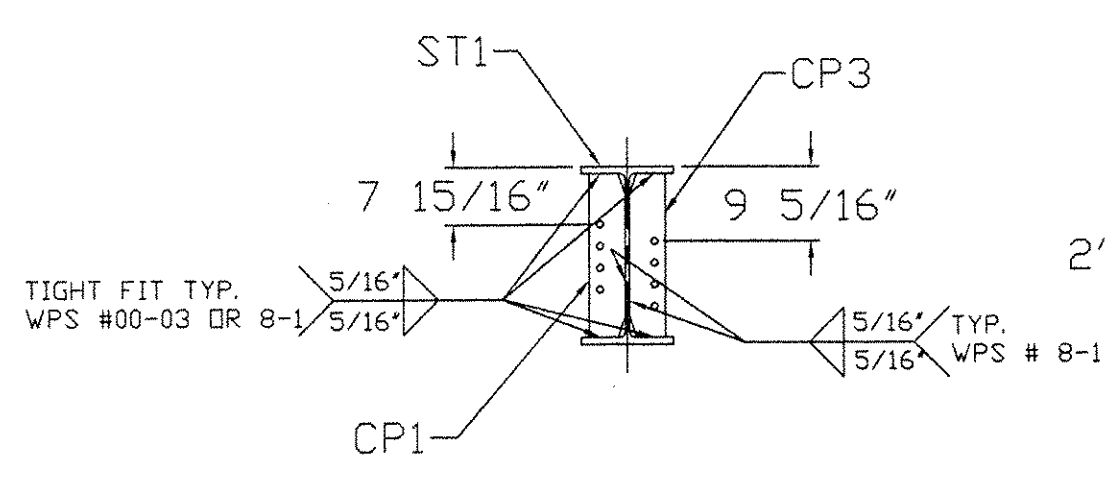
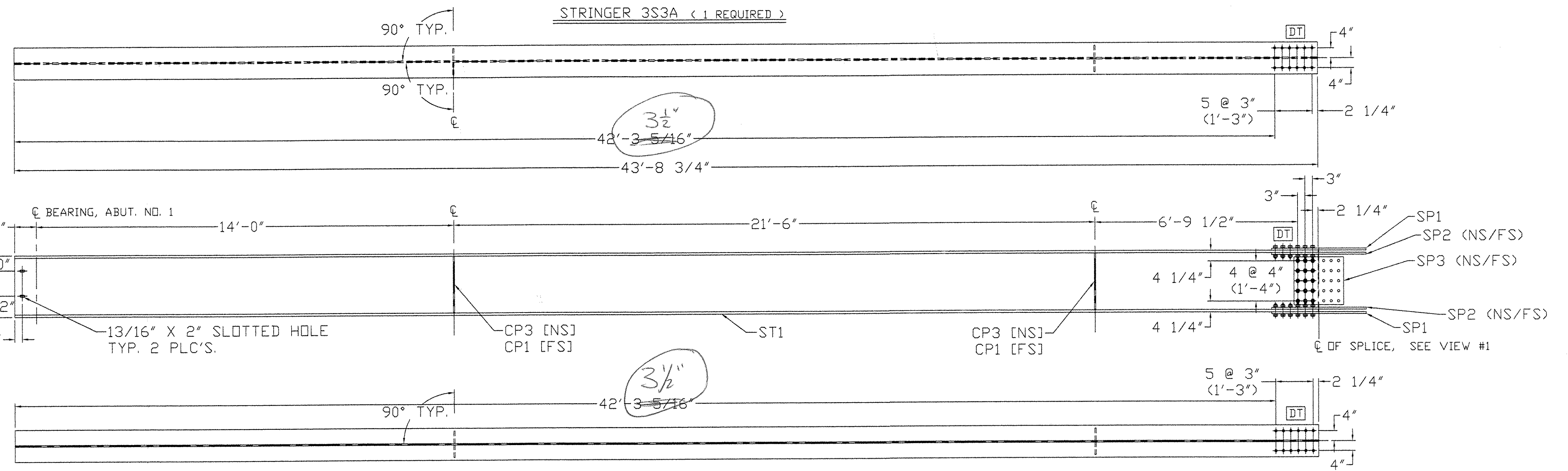
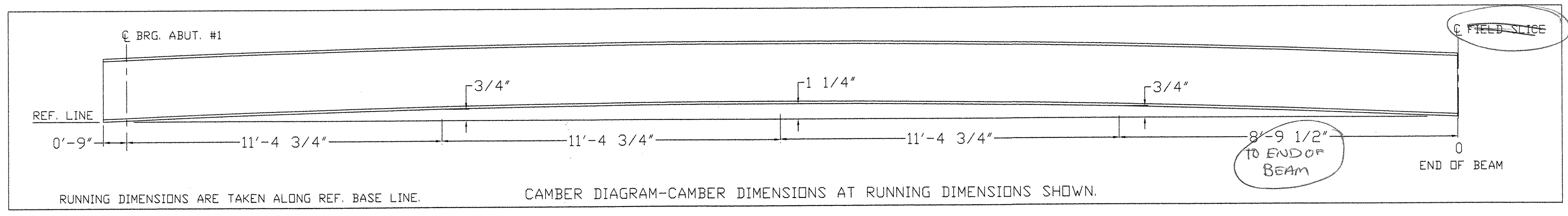


03055

W24 X 131	
W	2'-0 1/2" X 5/8"
F	1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270G-50W (UN)
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  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

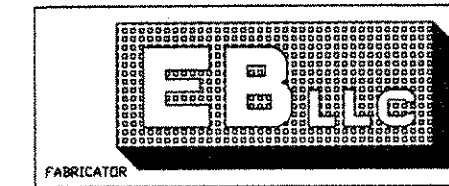
BILL OF MATERIAL										
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT
	3S3A	ST1	1	W	W24 X 131	M270G50W T2	43'-8 3/4"		CVN	5729#
	3S3A	CP1	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	3S3A	CP3	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	3S3A	SP1	2	PLATE	PL 3/4" X 12"	M270G50W T2	3'-2"		CVN	194#
	3S3A	SP2	4	PLATE	PL 3/4" X 5"	M270G50W T2	3'-2"		CVN	162#
	3S3A	SP3	2	PLATE	PL 3/8" X 19"	M270G50W T2	1'-8"		CVN	81#



REVISIONS CORRECTED  
 REJECTED, REVISE AND RESUBMIT  
 REJECTED, REJECTABLE  
 Checked by: JH 7/22/04  
 Eastern Bridge LLC

REVISIONS		
NO.	DATE	DESCRIPTION
1	7/14/04	FOR APPROVAL

ITEM NO: 506.50	
FRANK W. WHITCOMB CONSTRUCTION CORP.	
CONTRACT: BHD 1442 (32) VT ADT	
CHURCH STREET (TH S) OVER WILLIAMS RIVER BRIDGE NO. 11 CHESTER, VT	
TITLE: STRINGER DETAIL 3S3A	
DRAWN BY: 4/23/04 DANA BACON	SHOP ORDER: 5025
CHK BY: JH 7/15/04	DWG. NO.: 3
	SHEET NO.: 1 OF 1

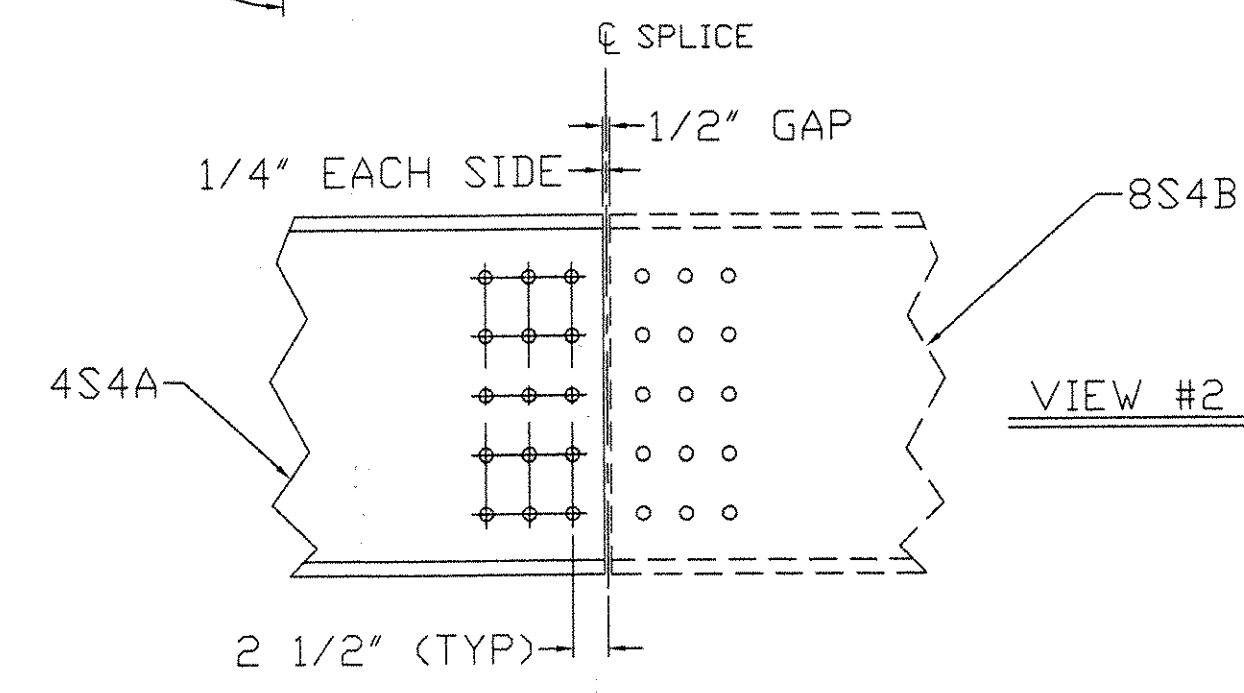
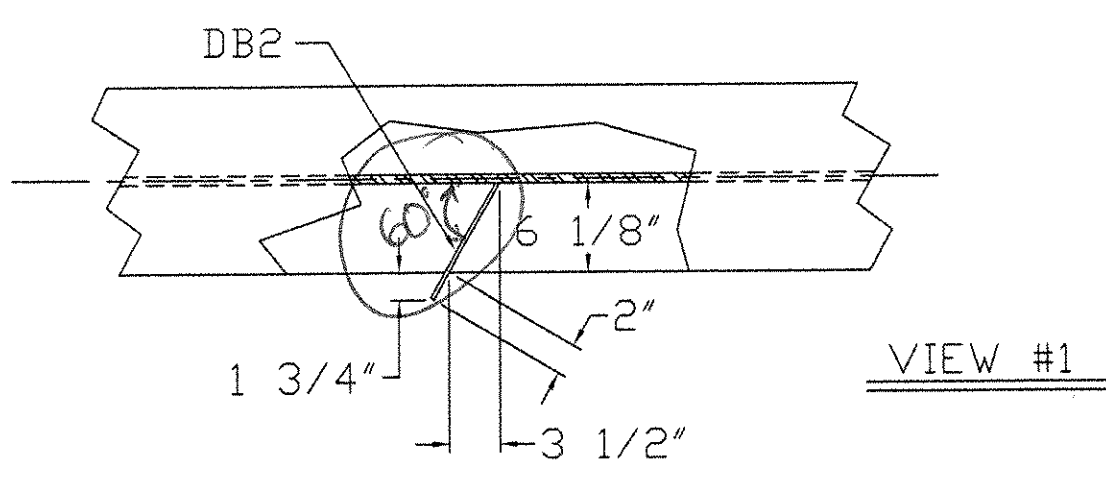
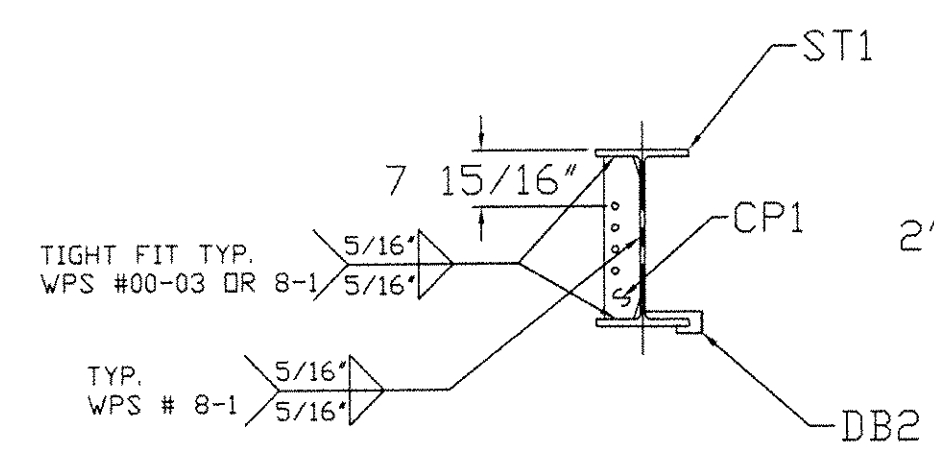
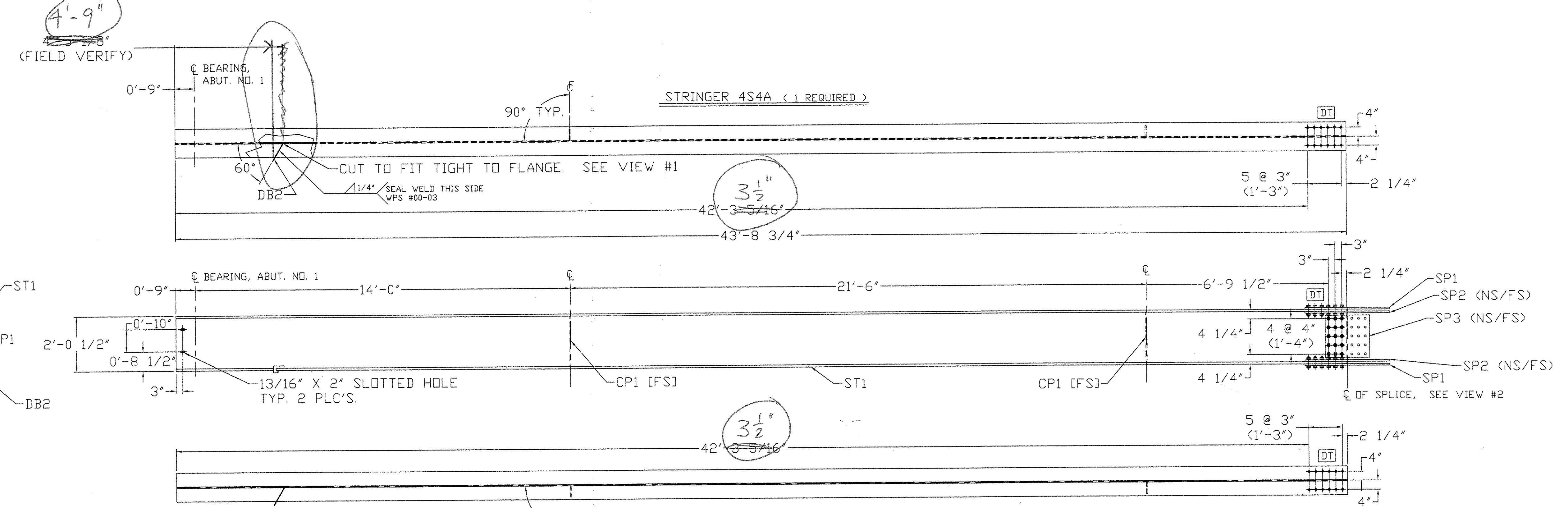
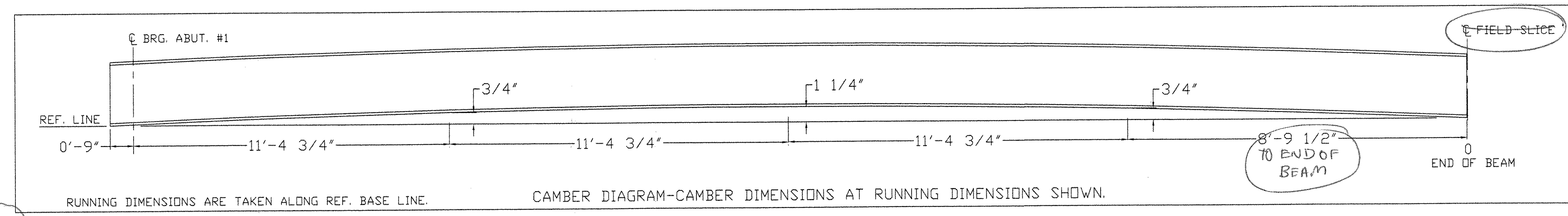


EASTERN BRIDGE LLC  
 RURAL RTE 8, BOX 382  
 CLAREMONT, NH 03743  
 603-542-5502

W24 X 131	
W	2'-0 1/2" X 5/8"
F	1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270G-50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

BILL OF MATERIAL											
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT	
	4S4A	ST1	1	W	W24 X 131	M270G50W T2	43'-8 3/4"		CVN	572#	
	4S4A	CP1	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#	
	4S4A	DB2	1	PLATE	PL 1/4" X 3"	M270G50W	0'-9 3/16"			2#	
	4S4A	SP1	2	PLATE	PL 3/4" X 12"	M270G50W T2	3'-2"		CVN	194#	
	4S4A	SP2	4	PLATE	PL 3/4" X 5"	M270G50W T2	3'-2"		CVN	162#	
	4S4A	SP3	2	PLATE	PL 3/8" X 19"	M270G50W T2	1'-8"		CVN	81#	



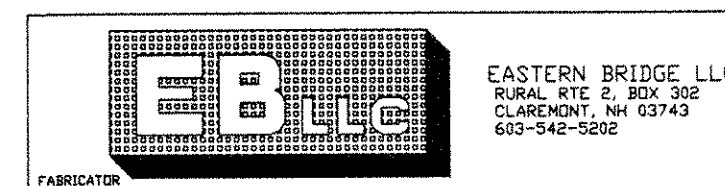
NOTED AS CORRECTED  
 REJECTED, REVISE AND RESUBMIT  
 REJECTED UNACCEPTABLE

Checking is only for conformance with the design concept of the project and compliance with the information given in the Contract Documents. The Engineer assumes no liability for errors or omissions that may be contained herein. The Contractor is responsible for reviewing and understanding these documents, verifying their accuracy as stipulated on the Contractor's Shop Drawing. See also CONTRACT ADMINISTRATION.

7/22/04

REVISIONS		
NO.	DATE	DESCRIPTION
7/14/04		FOR APPROVAL

ITEM NO: 506.50	
FRANK W. WHITCOMB CONSTRUCTION CORP.	
CONTRACT: BHO 1442 (32)	
CHURCH STREET (TH 5) OVER WILLIAMS RIVER BRIDGE NO. 11 CHESTER, VT	
TITLE: STRINGER DETAIL 4S4A	
DRAWN BY: 4/23/04 DANA BACON	SHOP ORDER: 5025
CHK BY: JH 7/15/04	BLOCK NO. SHEET NO. 1 OF 1



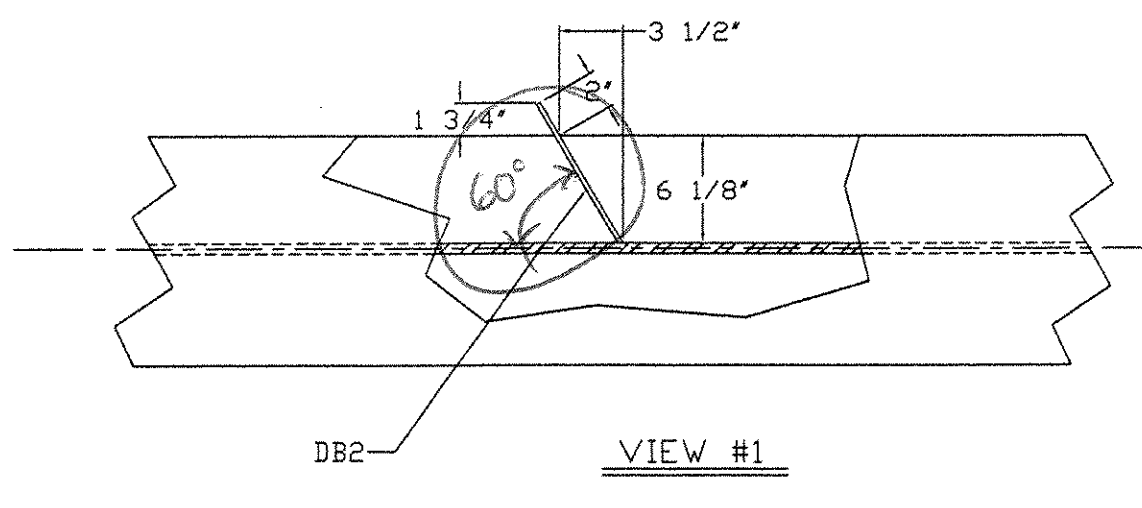
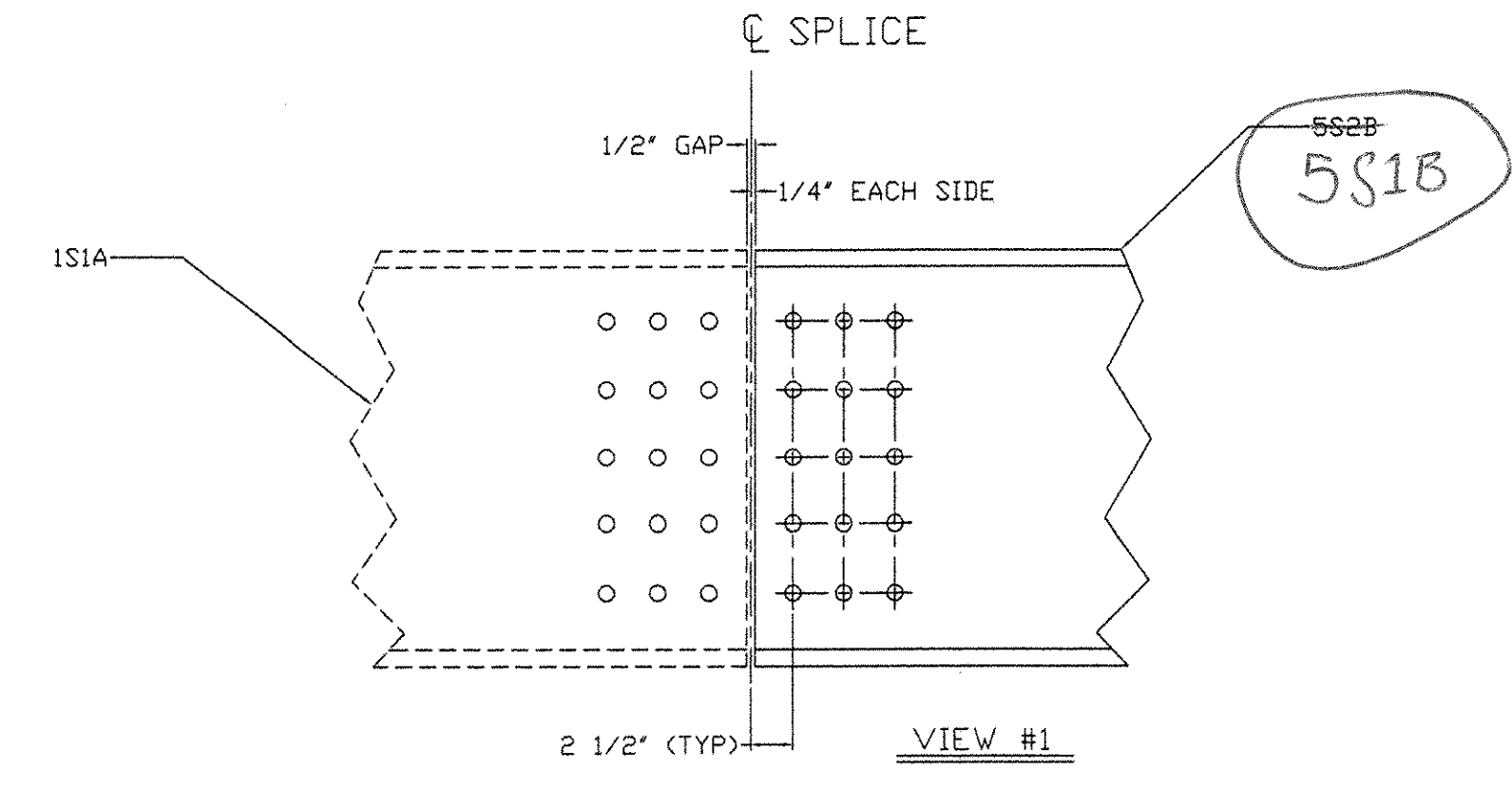
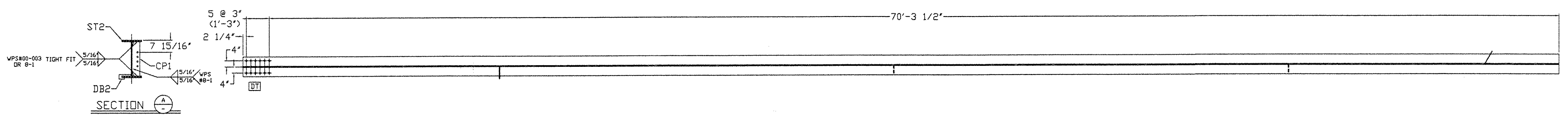
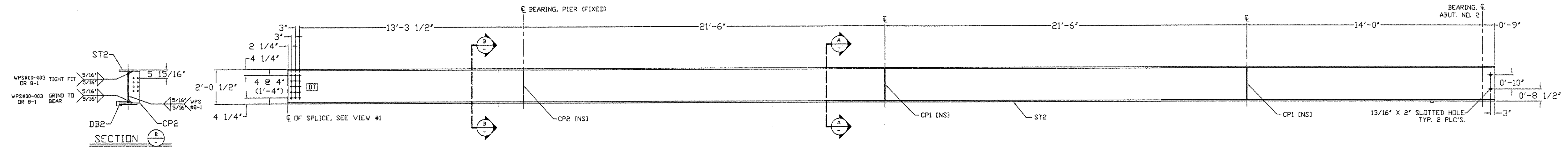
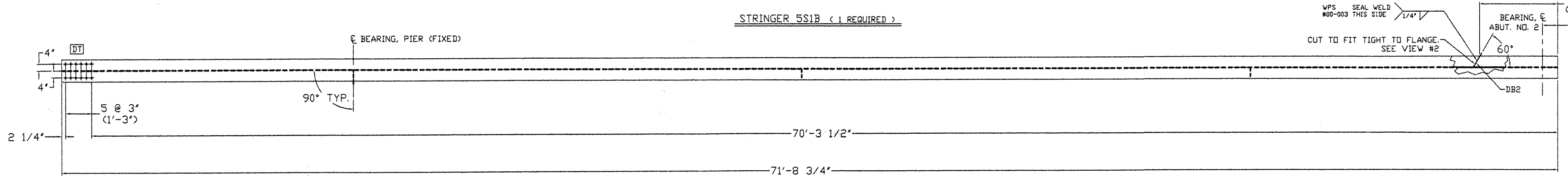
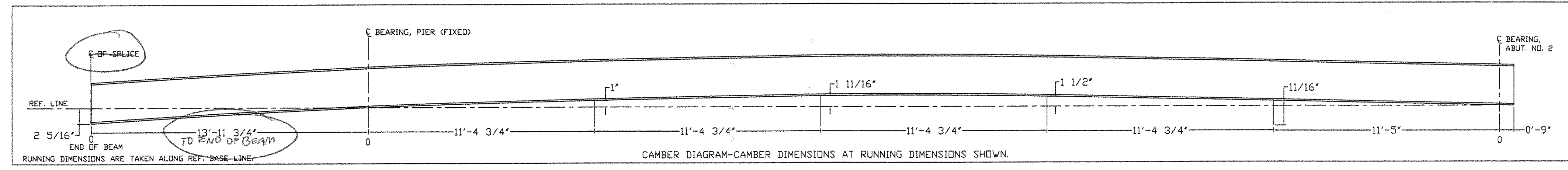
W24 X 131  
 W 2'-0 1/2" X 5/8"  
 F 1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270GR50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

ST2

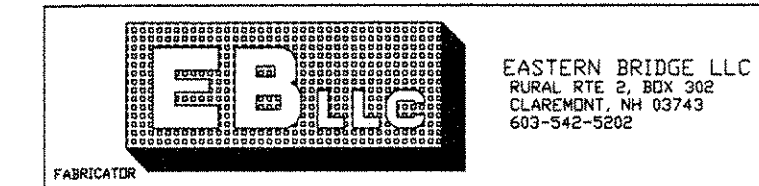
BILL OF MATERIAL										
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT
	SS1B	ST1	1	W	W24 X 131	M270GR50W TZ	71'-8 3/4"		CVN	9397#
	SS1B	CP1	2	PLATE	PL 1/2" X 5"	M270GR50W	1'-10 5/8"			32#
	SS1B	CP2	1	PLATE	PL 1/2" X 8"	M270GR50W	1'-10 5/8"			26#
	SS1B	DB2	1	PLATE	PL 1/4" X 3"	M270GR50W	0'-9 3/16"			2#

9457



ACCEPTED AS SHOWN  
 REVISIONS AND RESUBMIT  
 UNACCEPTABLE  
 7/22/04  
 FSA

REVISIONS			FRANK W. WHITCOMB CONSTRUCTION CORP.	
NO.	DATE	DESCRIPTION	CONTRACT: BHD 1442 (32)	
	7/14/04	FOR APPROVAL	CHURCH STREET (TH S) OVER WILLIAMS RIVER BRIDGE NO. 11 CHESTER, VT	
TITLE:			STRINGER DETAIL SS1B	
DRAWN BY 4/26/04 DANA BACON		SHOP ORDER 5025	DWC NO. 5	
CND BY JH 7/15/04		BLOCK NO.	SHEET NO. 1 OF 1	



03355

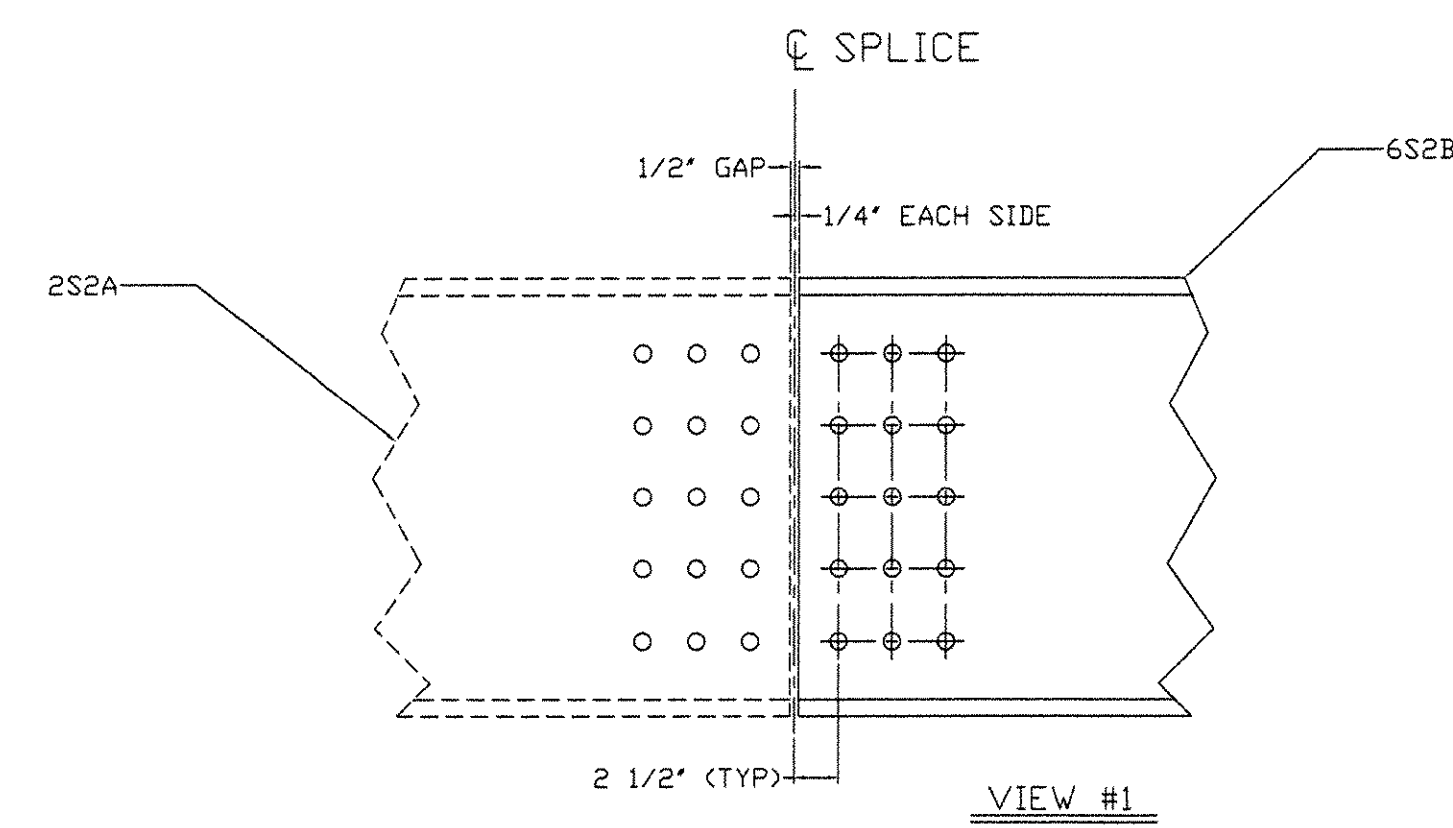
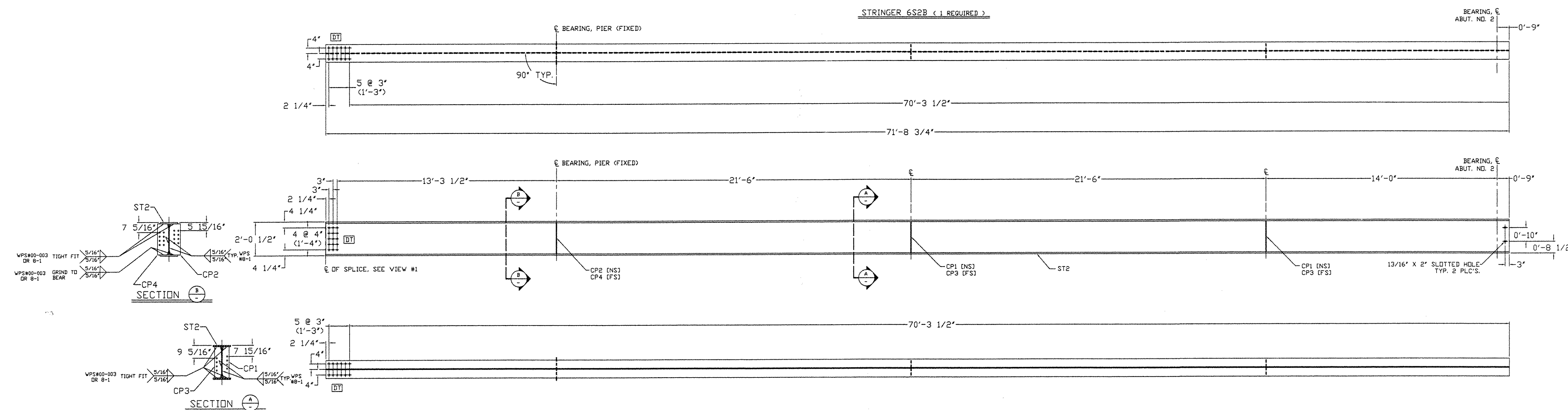
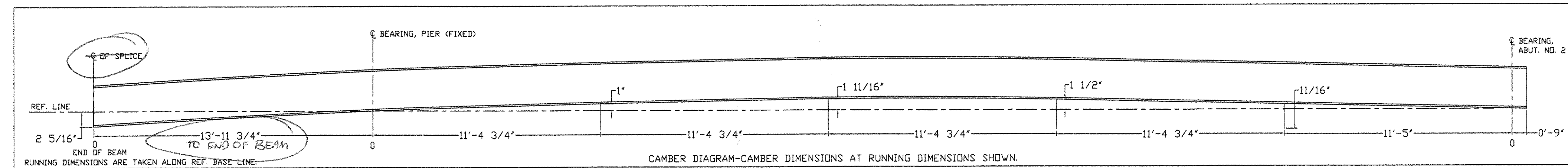
W24 X 131  
 W | 2'-0 1/2" X 5/8"  
 F | 1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270G50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING G01
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

BILL OF MATERIAL

REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT
	6S2B	ST2	1	W	W24 X 131	M270GR50W TZ	71'-8 3/4"		CVN	9397#
	6S2B	CP1	2	PLATE	PL 1/2" X 8"	M270GR50W	1'-10 5/8"			32#
	6S2B	CP2	1	PLATE	PL 1/2" X 8"	M270GR50W	1'-10 5/8"			26#
	6S2B	CP3	2	PLATE	PL 1/2" X 5"	M270GR50W	1'-10 5/8"			32#
	6S2B	CP4	1	PLATE	PL 1/2" X 8"	M270GR50W	1'-10 5/8"			26#

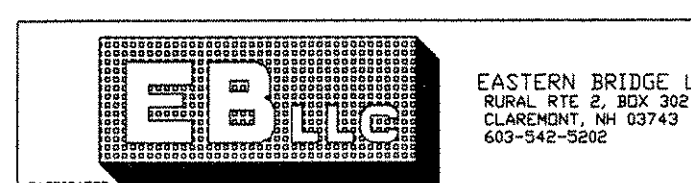
9513



AS NOTED AS CORRECTED  
 REVISIONS REVIEWED AND PRESUMED  
 ACCEPTED UNACCEPTABLE  
 I am issuing this only for compliance with the design request of the  
 client and compliance with the information given in the contract  
 documents. The Engineer assumes no liability for errors or  
 omissions that may be contained herein. The Contractor, by  
 issuing and submitting these documents, certifies that  
 they are prepared in accordance with the Contract Documents.  
 CONTRACT NO. 1442-032  
 DATE: 7/22/04  
 SIGNATURE: [Signature]

REVISIONS		
NO.	DATE	DESCRIPTION
1	7/14/04	FOR APPROVAL

ITEM NO: 50650  
**FRANK W. WHITCOMB**  
**CONSTRUCTION CORP.**  
 CONTRACT: BHD 1442 (32)  
 CHURCH STREET (TH 5) OVER WILLIAMS RIVER  
 BRIDGE NO. 11  
 CHESTER, VT  
 TITLE:  
**STRINGER DETAIL 6S2B**  
 DRAWN BY 4/26/04 SHOP ORDER 5025 DWG. NO. 6  
 DANA BACON  
 OKD BY JH 7/15/04 BLOCK NO. SHEET NO. 1 OF 1



03455

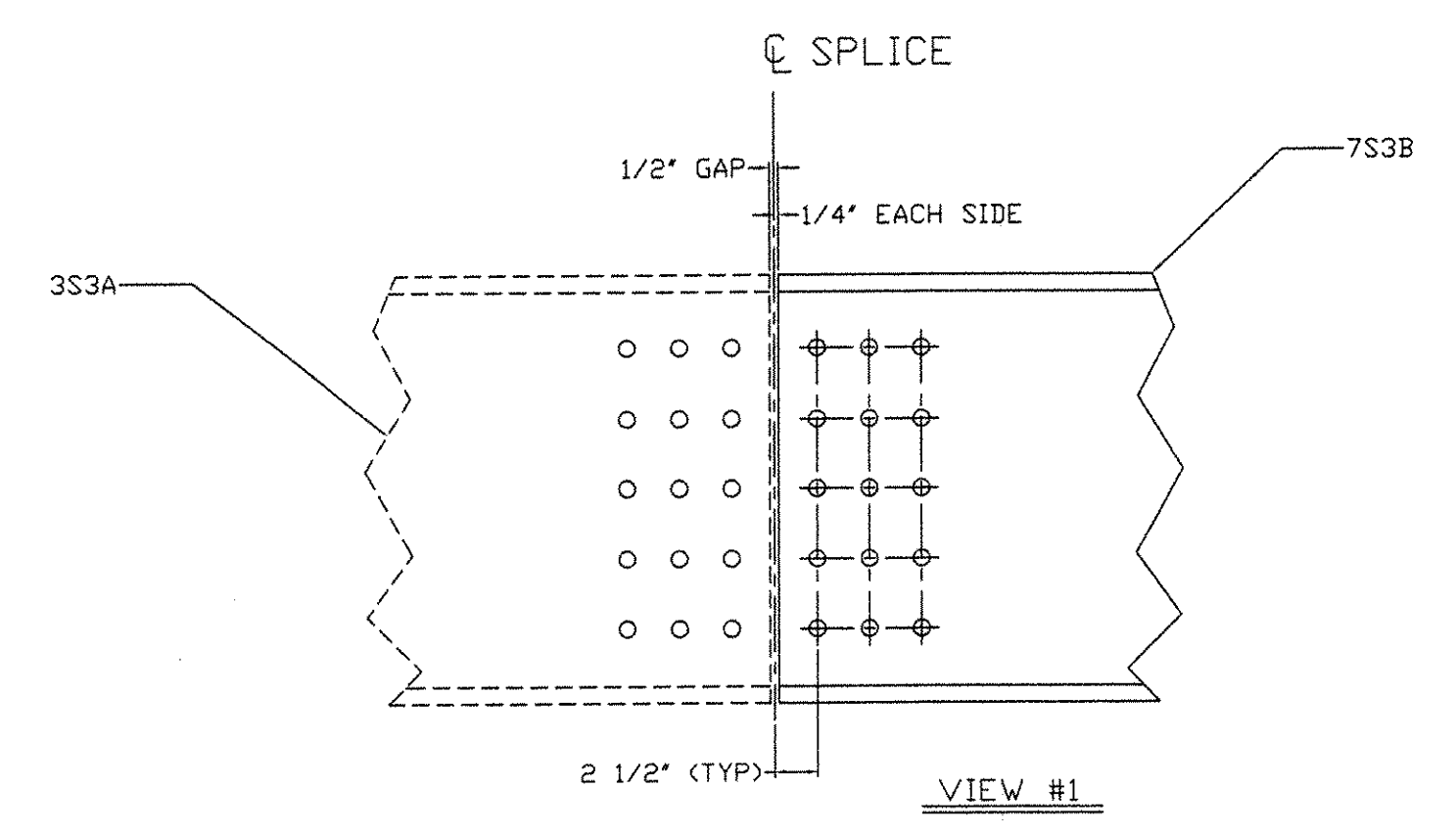
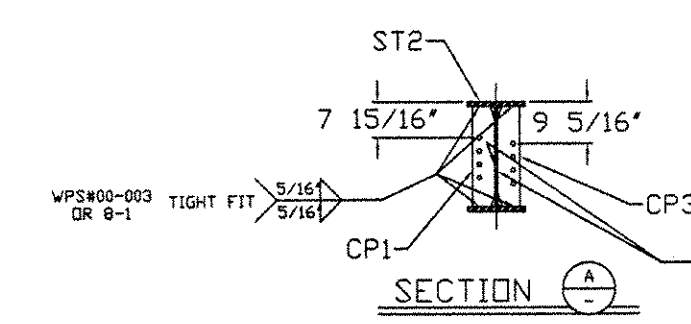
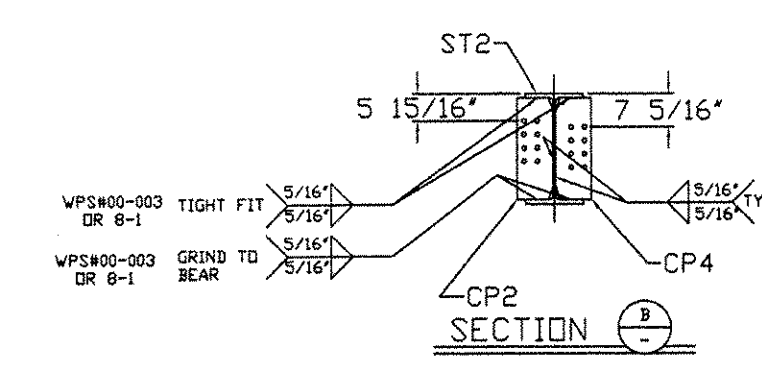
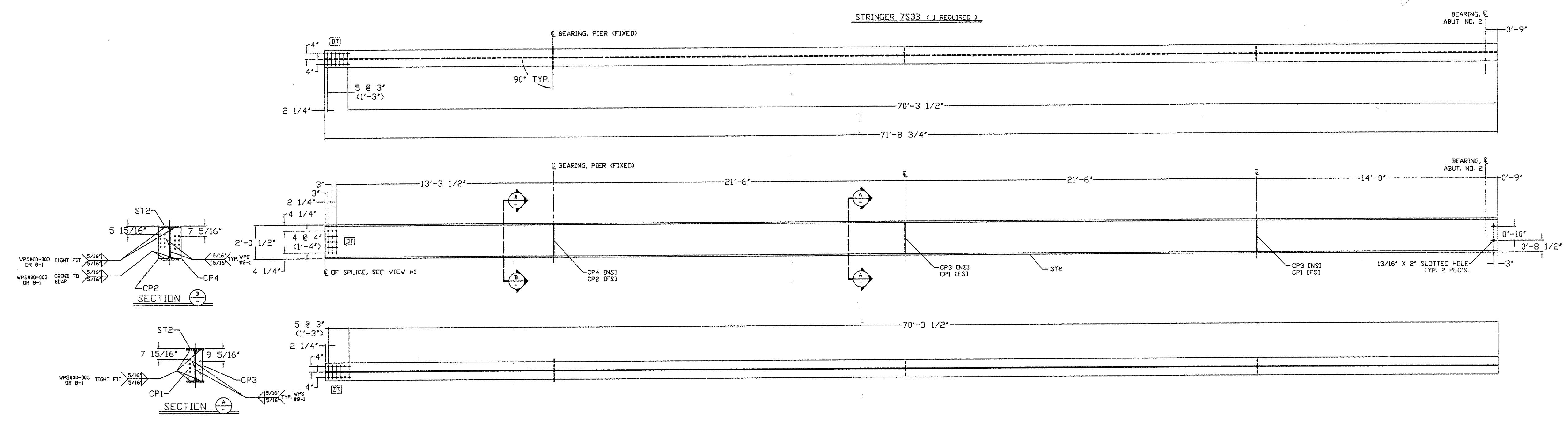
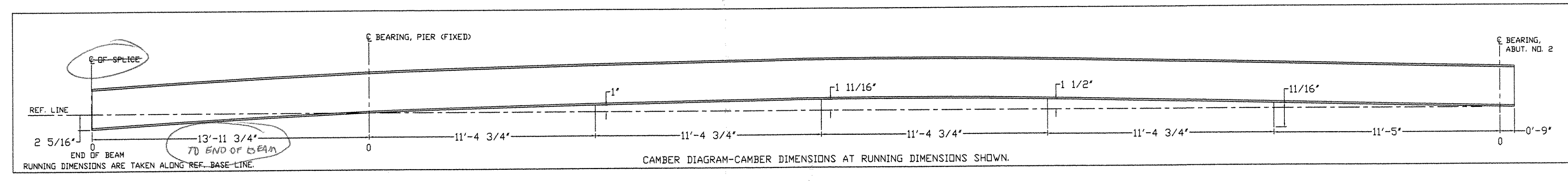
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W24 X 131  
W 2'-0 1/2" X 5/8"  
F 1'-0 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270G50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

BILL OF MATERIAL										
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT
	7S3B	ST2	1	W	W24 X 131	M270G50W TZ	71'-8 3/4"		CVN	9397#
	7S3B	CP1	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	7S3B	CP2	1	PLATE	PL 1/2" X 8"	M270G50W	1'-10 5/8"			26#
	7S3B	CP3	2	PLATE	PL 1/2" X 5"	M270G50W	1'-10 5/8"			32#
	7S3B	CP4	1	PLATE	PL 1/2" X 8"	M270G50W	1'-10 5/8"			26#

9513



NOT TO BE USED FOR CONSTRUCTION  
 ANY CHANGES TO BE MADE BY THE CONTRACTOR  
 SHALL BE MADE AT HIS OWN RISK AND WITHOUT  
 THE ENGINEER'S CONSENT.  
 THE ENGINEER'S RESPONSIBILITY IS LIMITED TO THE  
 DESIGN AND CALCULATIONS SHOWN ON THESE  
 DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE  
 FOR THE PROTECTION AND MAINTENANCE OF THE  
 STRUCTURE DURING CONSTRUCTION.  
 7/22/04 JBA

EASTERN BRIDGE LLC  
 1000 W. 8th St. Box 502  
 Claremont, NH 03743  
 603-542-3022

REVISIONS		
NO.	DATE	DESCRIPTION
	7/14/04	FOR APPROVAL

ITEM NO. 506.50  
**FRANK W. WHITCOMB**  
**CONSTRUCTION CORP.**  
 CONTRACT: BMD 1442 (32)  
 CHURCH STREET (TH 5) OVER WILLIAMS RIVER  
 BRIDGE NO. 11  
 CHESTER, VT  
 TITLE:  
**STRINGER DETAIL 7S3B**  
 DRAWN BY 4/26/04  
 DANA BACON  
 SHOP ORDER 5025  
 DWG. NO. 7  
 CHK BY JH 7/15/04  
 BLOCK NO.  
 SHEET NO. 1 OF 1

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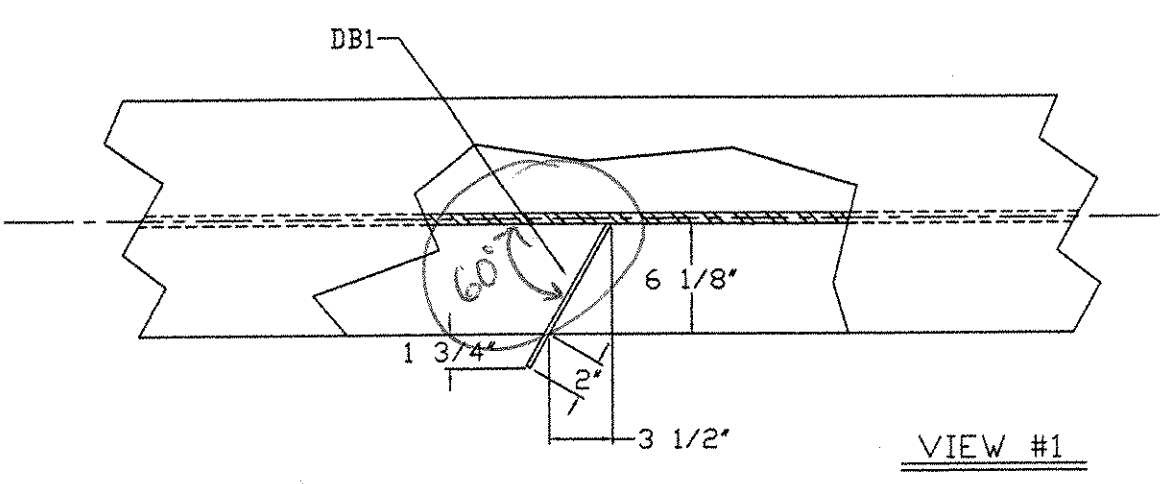
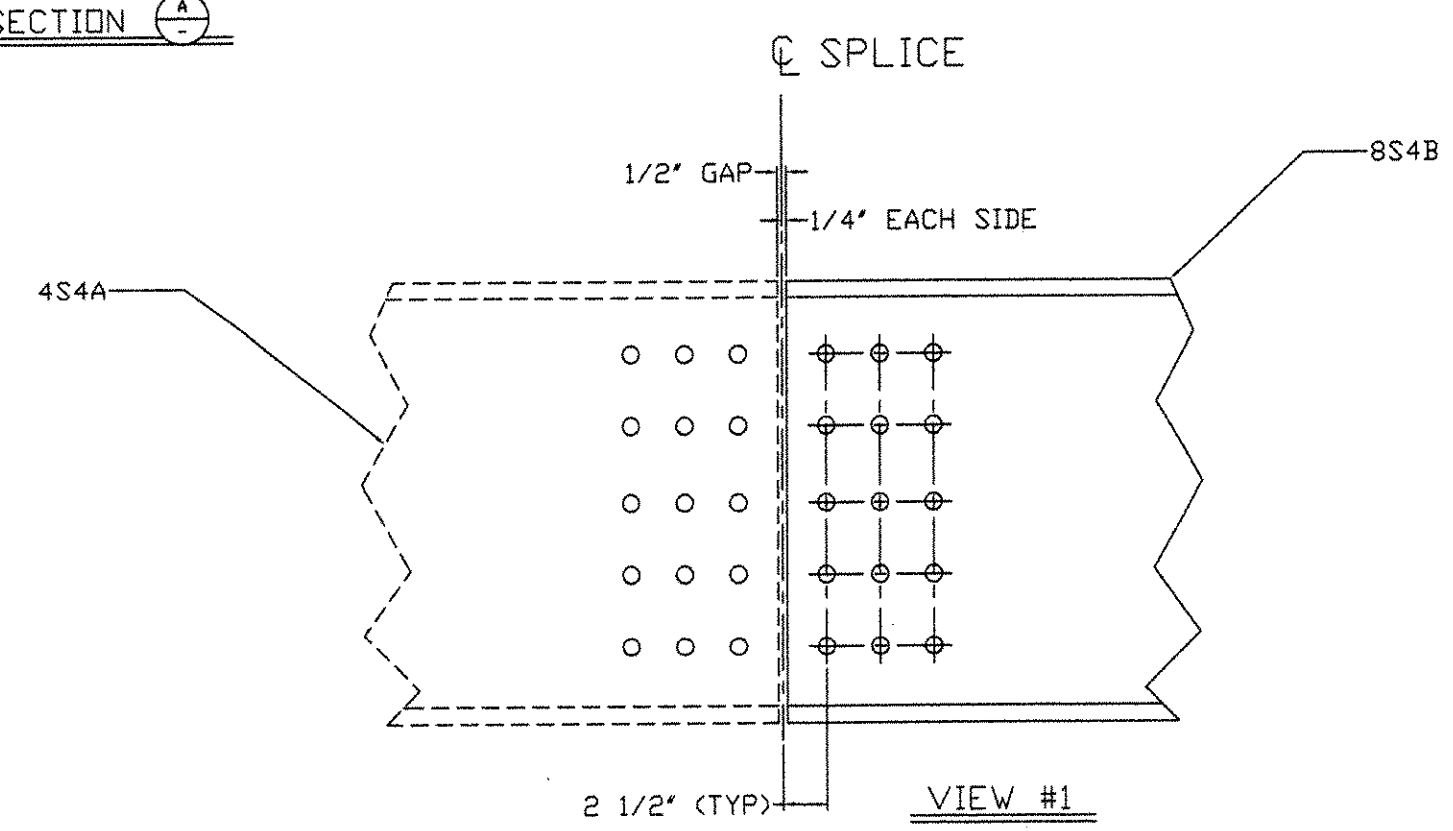
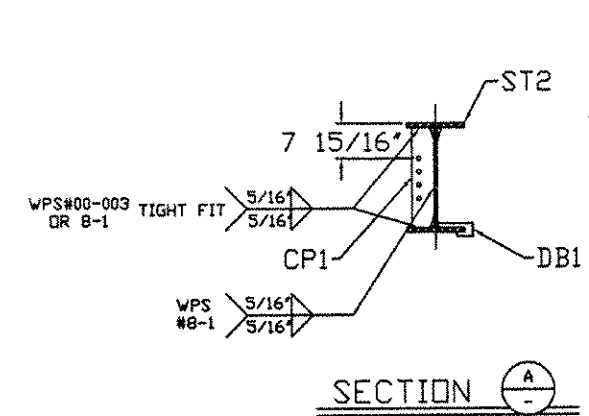
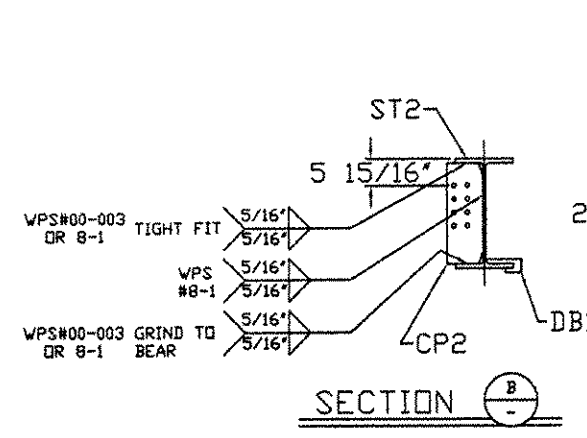
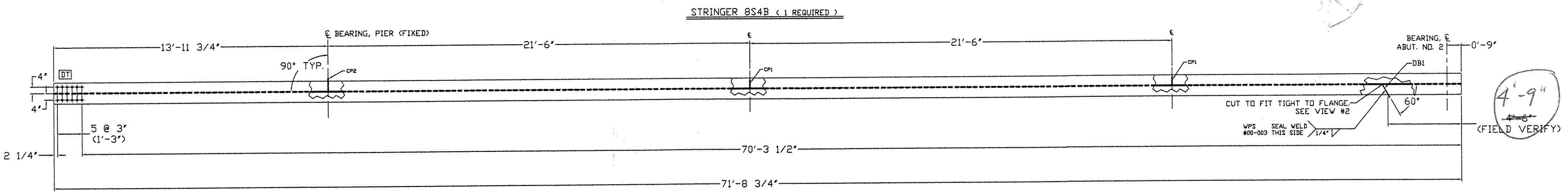
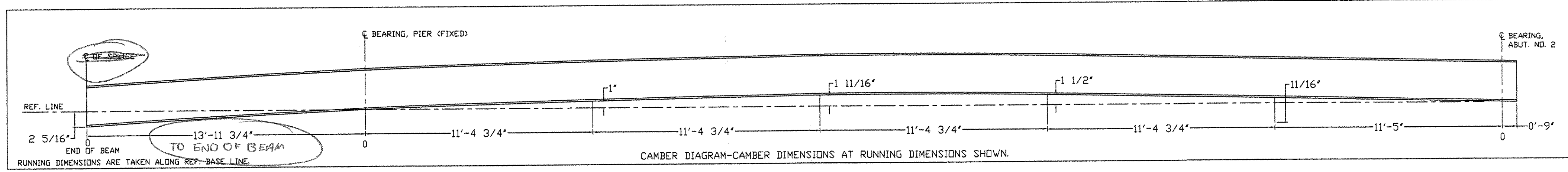
8 7 6 5 4 3 2 1

W24 X 131  
 W | 2'-0" 1/2" X 5/8"  
 F | 1'-0" 7/8" X 15/16"

- NOTES:
1. ALL HOLES ARE 15/16" DIA.
  2. MATERIALS: M270Gr50W (UN)
  3. FASTENERS: 7/8" A325 TYPE 3
  4. PAINT: NONE.
  5. DIMENSION ARE IN FEET & INCHES.
  6. GENERAL NOTES: SEE DRAWING GNI
  7. ENDS OF BEAMS SHALL BE CUT SQUARE AT ABUTMENTS.
  8. ALL STIFFENERS ARE 90° TO BOTTOM FLANGE.

BILL OF MATERIAL											
REV. NO.	SHIP MARK	PIECE MARK	QTY.	TYPE OF MATERIAL	SIZE OF MATERIAL	GRADE	LENGTH	FINISH	NOTES	WEIGHT	
	BS4B	ST1	1	W	W24 X 131	M270GR50W T2	71'-8 3/4"		CVN	9397#	
	BS4B	CP1	2	PLATE	PL 1/2" X 5"	M270GR50W	1'-10 5/8"			32#	
	BS4B	CP2	1	PLATE	PL 1/2" X 8"	M270GR50W	1'-10 5/8"			26#	
	BS4B	DB1	1	PLATE	PL 1/4" X 3"	M270GR50W	0'-9 3/16"			2#	

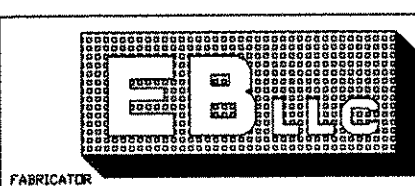
9457



REVISIONS AS CORRECTED  
 REVISIONS REVISE AND RESUBMIT  
 UNACCEPTABLE  
 7/22/04

REVISIONS		
NO.	DATE	DESCRIPTION
	7/14/04	FOR APPROVAL

ITEM NO: 506.50			
FRANK W. WHITCOMB CONSTRUCTION CORP. CONTRACT: BND 1442 (32) VT ADT			
CHURCH STREET (TH S) OVER WILLIAMS RIVER BRIDGE NO. 11 CHESTER, VT			
TITLE: STRINGER DETAIL 8S4B			
DRAWN BY: 4/26/04 DANA BACDIN	SHIP ORDER: 5025	DWG. NO.: 8	
CHK BY: JH 7/15/04	BLOCK NO.:	SHEET NO.: 1 OF 1	

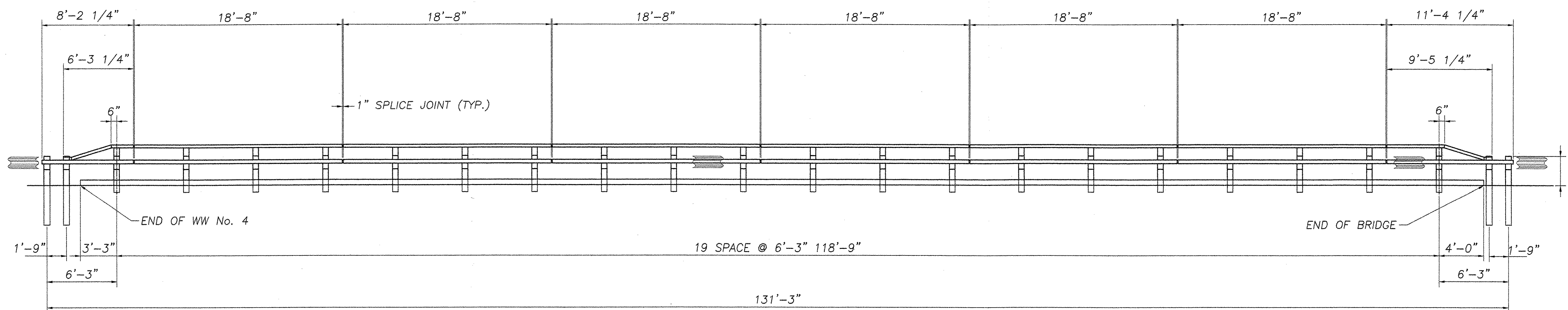


EASTERN BRIDGE LLC  
 BURLINGTON, VT 05402  
 802-248-5602

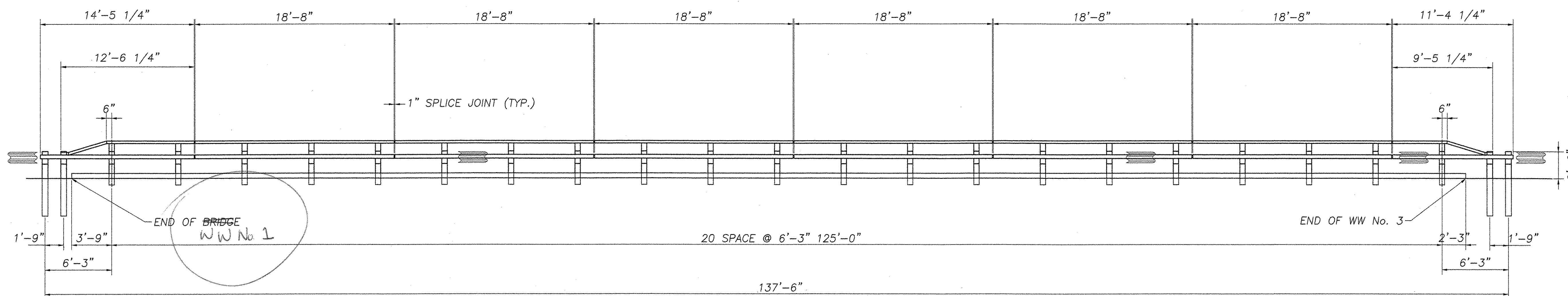
8 7 6 5 4 3 2 1 036 53







ELEVATION - RIGHT BRIDGE RAILING



ELEVATION - LEFT BRIDGE RAILING

BILL OF MATERIAL (BOTH SIDES OF BRIDGE)		
Qty.	Description	Material
41	FASCIA MOUNTED POST W8x24 x 4'-1"	A572 GR 50
8	TRANSITION POST W8x24 x 6'-0"	A572 GR 50
14	SPLICE CHANNEL C7x12.25 x 2'-7"	A572 GR 50
98	TUBE BLOCKOUTS TS 8x4x3/16 x 6" LG	A500 GR B
12	RAIL TUBE TS 8x4x3/16 x 18'-8" OAL	A500 GR B
1	RAIL TUBE TS 8x4x3/16 x 14'-5 1/4" OAL	A500 GR B
2	RAIL TUBE TS 8x4x3/16 x 11'-4 1/4" OAL	A500 GR B
1	RAIL TUBE TS 8x4x3/16 x 8'-2 1/4" OAL	A500 GR B
22	10 GA. HDSB RAIL 12'-6" / 6'-3"	M180 B2
1	10 GA. HDSB RAIL 6'-3"	M180 B2
12	HAND RAIL TUBE TS 6x3x1/4 x 18'-8" OAL	A500 GR B
1	HAND RAIL TUBE (DROP END) TS 6x3x1/4 x 12'-6 1/4"	A500 GR B
2	HAND RAIL TUBE (DROP END) TS 6x3x1/4 x 9'-5 1/4"	A500 GR B
1	HAND RAIL TUBE (DROP END) TS 6x3x1/4 x 6'-3 1/4"	A500 GR B
28	SPLICE PLATE - HAND RAIL TUBE 3/4"x5"x2'-7"	A572 GR 50
41	SHELF ANGLE L5x3 1/2x3/8 6 1/2" LG.	A36
49	5/8" x 13" HEX BOLT	A325
49	5/8" x 10" HEX BOLT	A325
236	5/8" x 2" HEX BOLT	A325
41	5/8" x 4 1/2" HEX BOLT	A325
56	3/4" x 4" HEX BOLT	A325
49	RECTANGULAR WASHER 3/16" x 1-3/4" x 3"	A572 GR 50
147	5/8" HEX NUT	A563 DH
228	5/8" HEX NUT	A563
56	3/4" HEX NUT	A563
56	3/4" FLAT WASHER	F436
563	5/8" ROUND WASHER	F436
176	5/8" x 1 1/4" PANEL SPLICE BOLT	A307
176	5/8" DBL RECESSED NUT	A563A
82	1" U-SHAPED ANCHOR RODS	A449
328	1" HEX NUT	A194 GR 2H
164	1/4" x 2" x 5" PLATE WASHER	A572 GR 50
328	1" PLAIN WASHER	F436

(\*) PROVIDED BY OTHERS, NOT SUPPLIED BY HIGHWAY SAFETY CORPORATION. SHOWN FOR REFERENCE ONLY.

TOTAL ITEM 525.43 LENGTH = 269'

THE BILL OF MATERIALS HAS NOT BEEN CHECKED BY THE REVIEWER.

REVISIONS		
No.	Remarks	Date
0	Initial submittal	5/28/04

ACCEPTED  
 ACCEPTED AS CORRECTED ✓  
 REJECTED, REVISE AND RESUBMIT  
 REJECTED, UNACCEPTABLE

Checked by: JBA  
 Date: 6/15/04



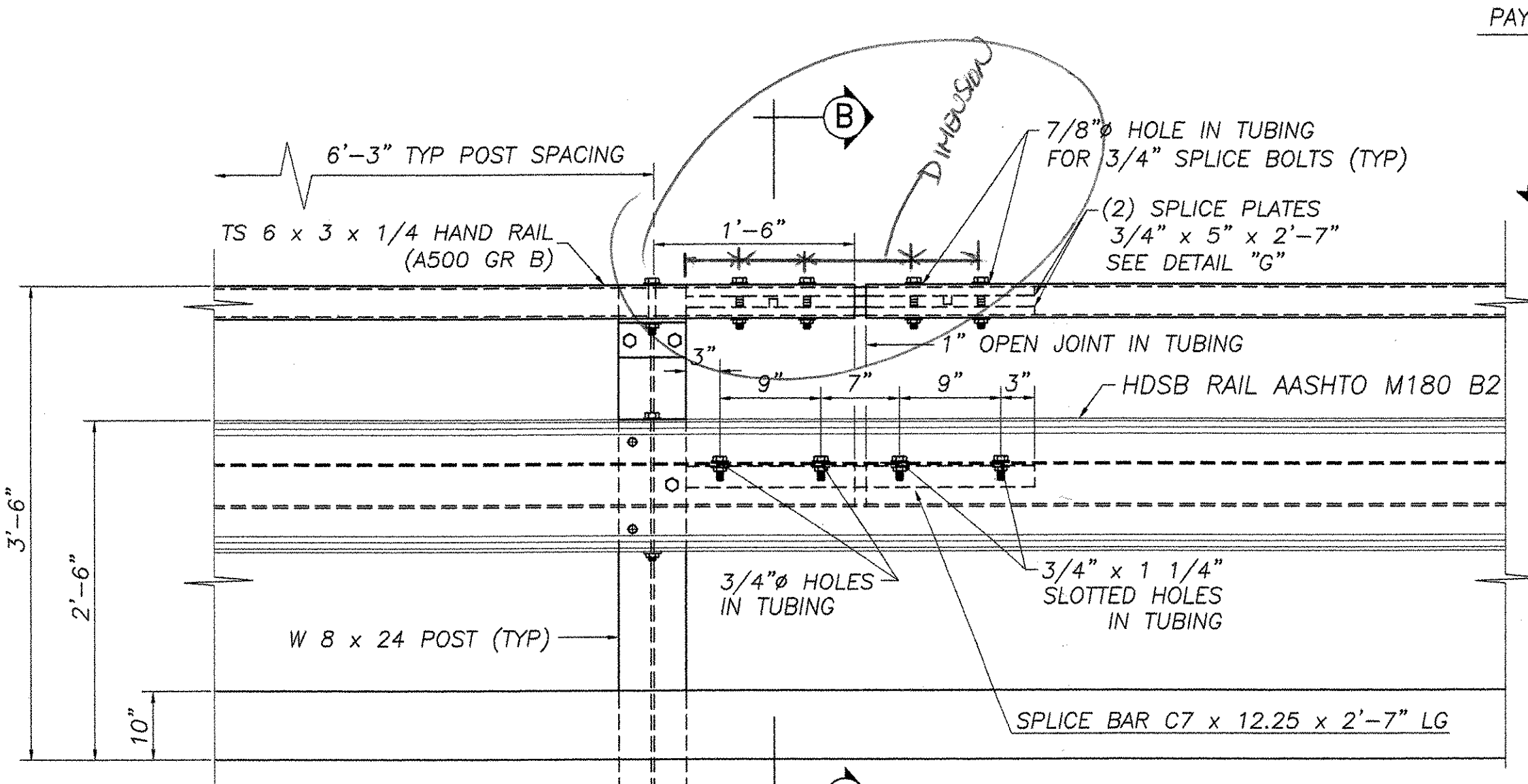
**HIGHWAY SAFETY CORP.**  
 GLASTONBURY, CT

ITEM 525.43 STEEL BRIDGE RAIL - HDSB W/HANDRAIL  
 BRIDGE NO. 11 HIGHWAY NO. TH 5  
 TOWN OF CHESTER, WINDSOR COUNTY  
 CHURCH STREET OVER WILLIAMS RIVER  
 PROJECT NO. TH 3-9637

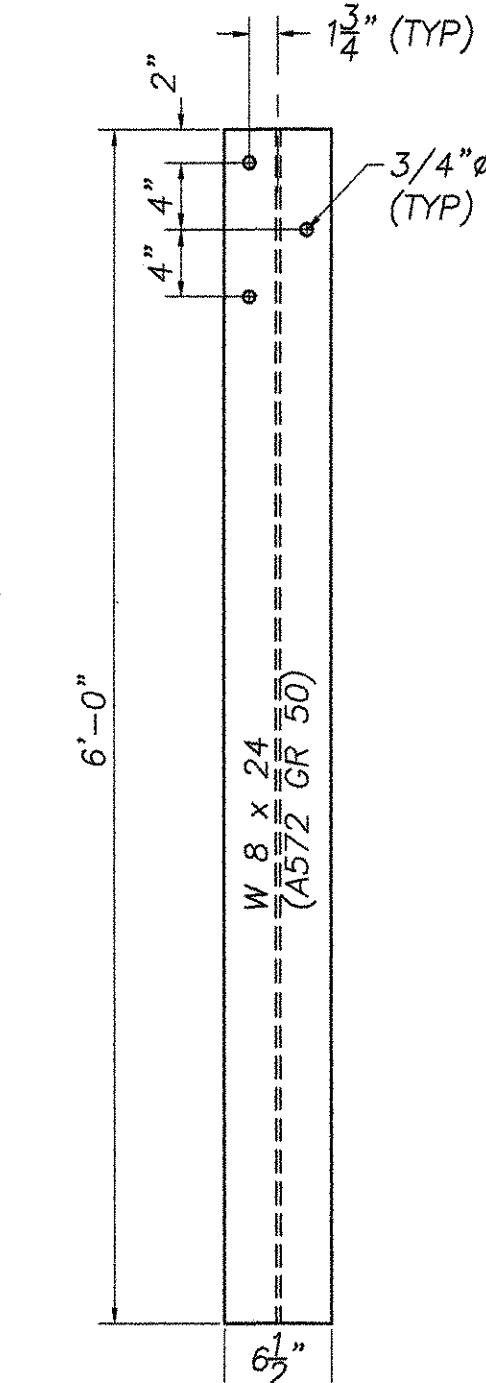
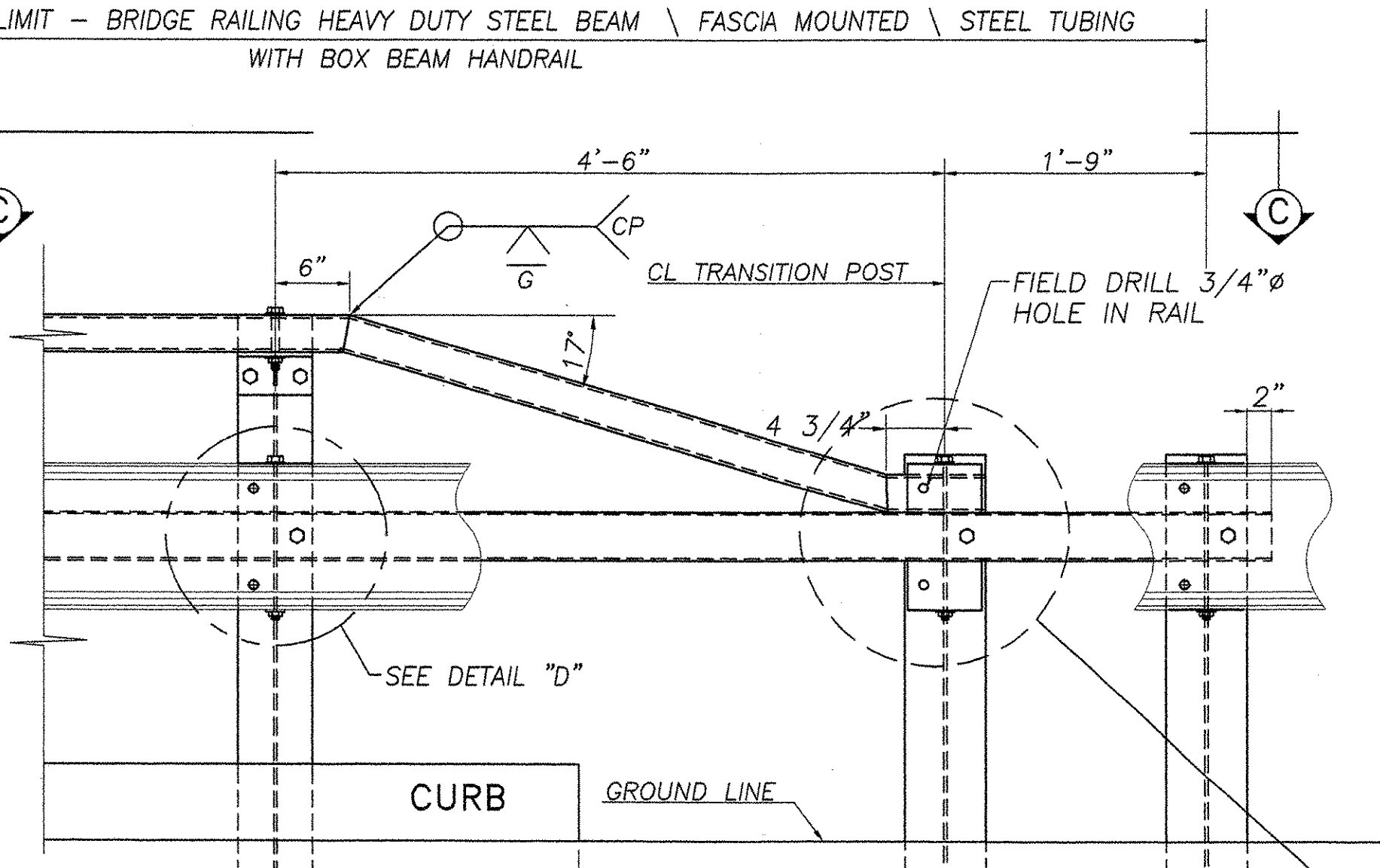
DRAWN: MHM  
 CHECKED: [Signature]  
 DATE: 5/15/04  
 SCALE: N.T.S.  
 HSC REFERENCE NO.: 1445  
 GENERAL CONTRACTOR: BAO 4442 (33)  
 SUB CONTRACTOR: F.R. LAFAYETTE, INC.

SIZE: D REVISION: 0  
 SHEET NO.: 1 of 2

PAY LIMIT - BRIDGE RAILING HEAVY DUTY STEEL BEAM \ FASCIA MOUNTED \ STEEL TUBING WITH BOX BEAM HANDRAIL



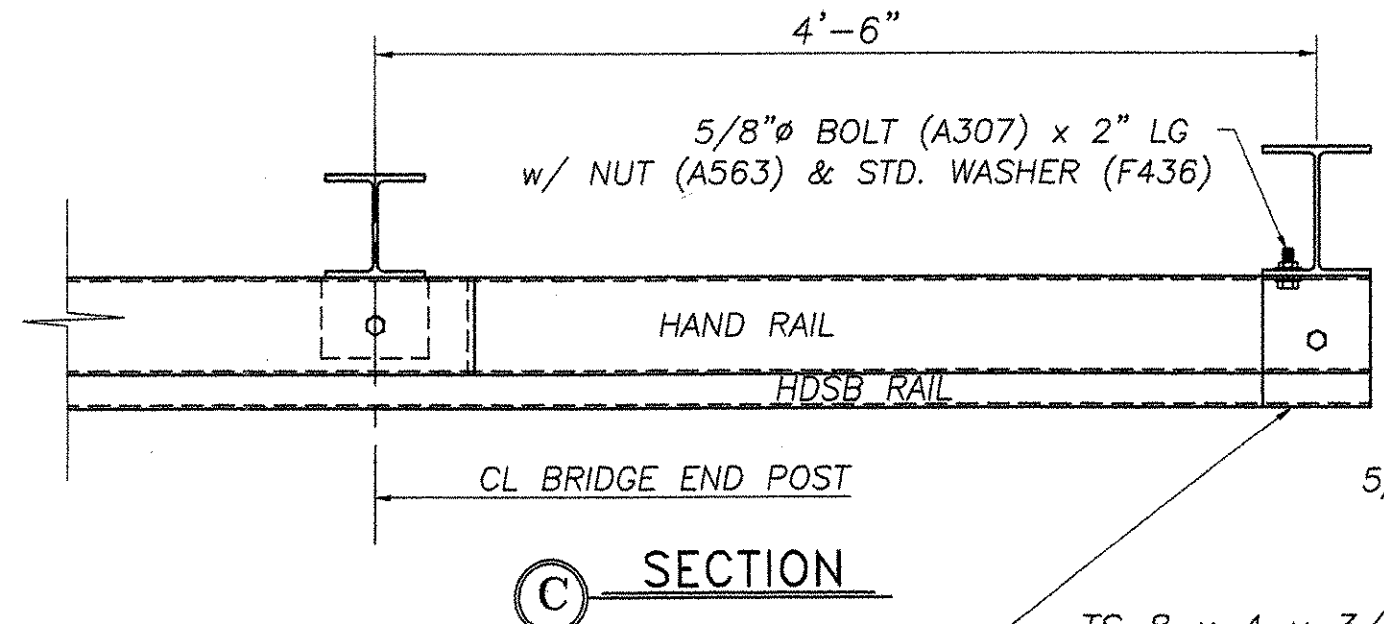
RAILING ELEVATION VIEW (SHOWN LOOKING FROM CL OF ROADWAY)



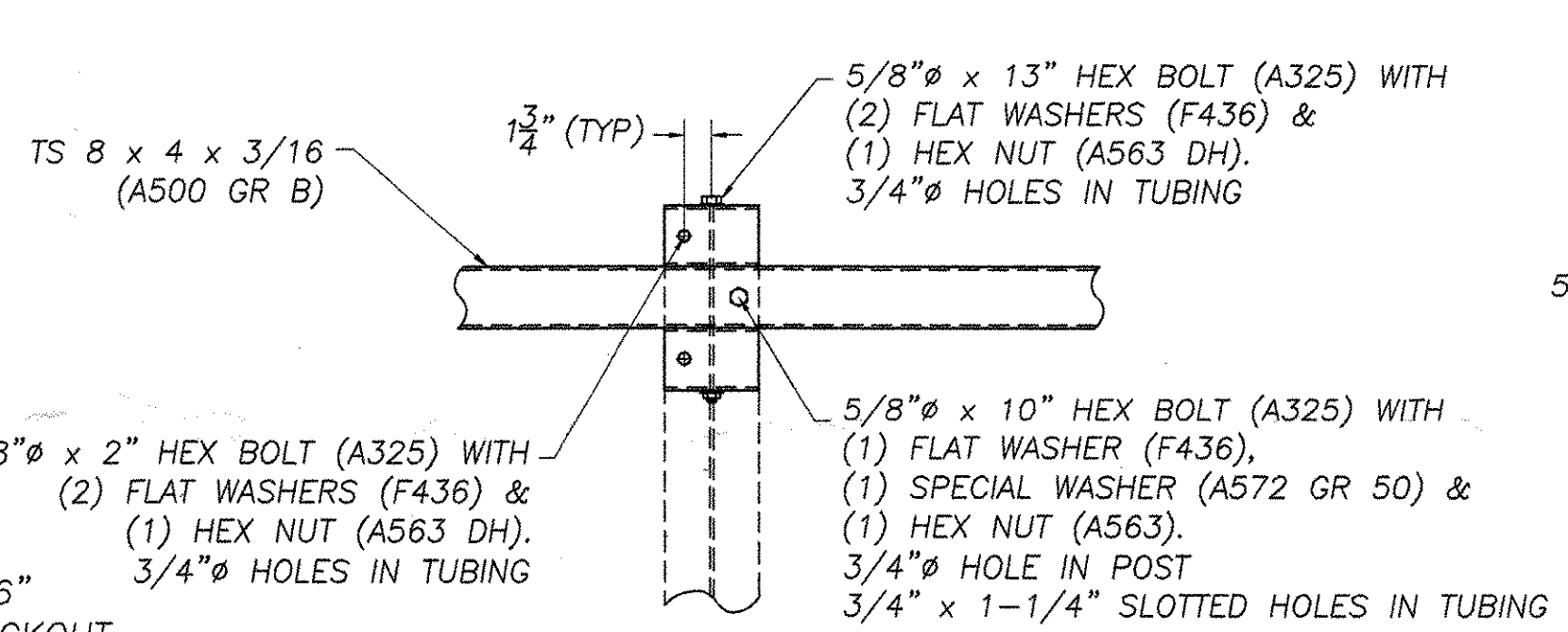
DETAIL "H" TRANSITION POST W8x24 (A572 GR 50)

GENERAL ERECTION NOTES

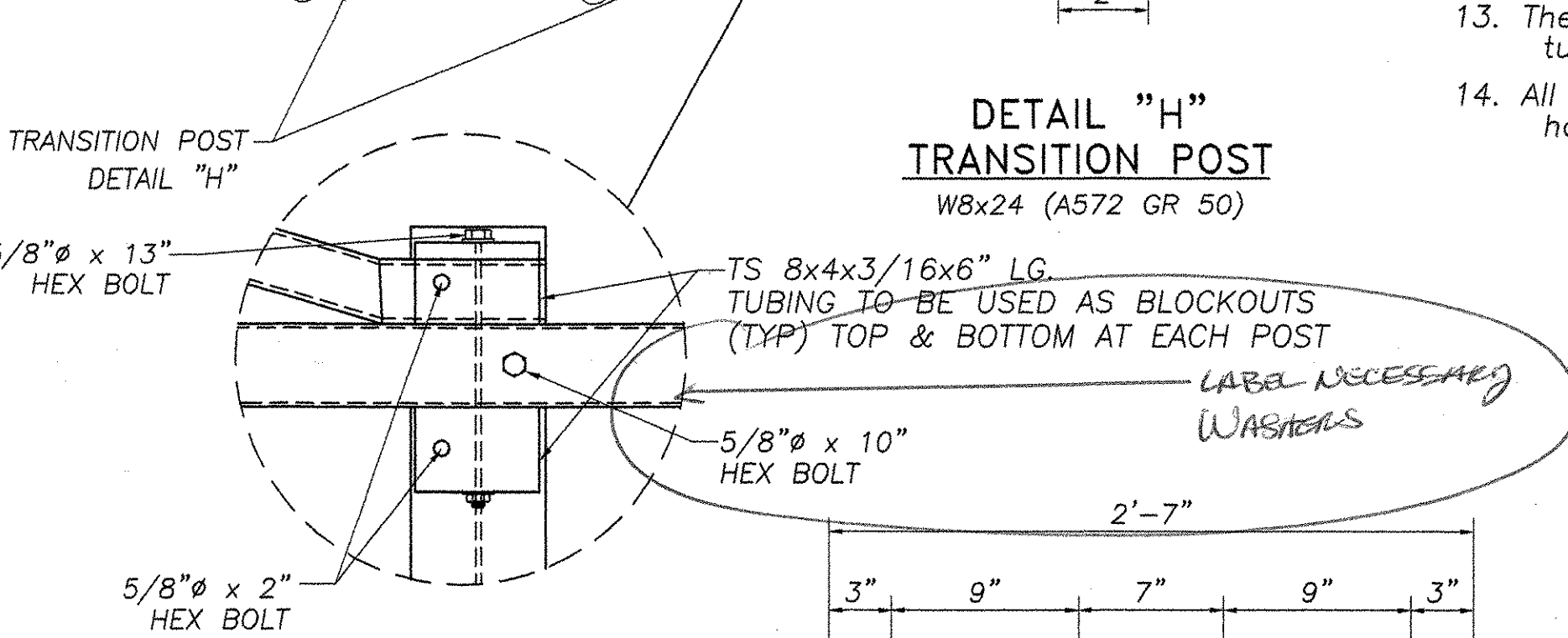
1. Heavy duty steel beam guard rail shall conform to VT. specification 732. AASHTO M180 B2
2. Structural steel tubing shall conform to VT. specification 732. ASTM A500 gr B
3. Anchor bolts, nuts and washers shall be galvanized in accordance with AASHTO M 232 and shall conform to VT. specification 714 unless otherwise noted.
4. Bridge rail posts, special washers, splice bars and plate washers shall conform to AASHTO M 223 / M 223M and shall be galvanized after fabrication in accordance with AASHTO M 111. Prior to galvanizing all corners and edges of steel plates, shapes, etc., shall be ground to a 1/16" radius.
5. See standard drawing G-1 and G-1d for additional details concerning guard rail.
6. See standard drawing SB-R6-82 for approach rail details and for information relative to schedule I and schedule II. All approach rail shall be heavy duty steel beam guard rail. Also see Std. Dwg. SB-R6-82 for handrail details (except end details) if hand rail is required.
7. All posts shall be set normal to grade.
8. Splices for the steel beam guard rail shall lap in the direction of traffic.
9. See Standard drawing G-1 for details of delineators. A delineator shall be located at every fifth post. Payment shall be subsidiary to other items.
10. A railing joint splice shall be provided at each superstructure expansion joint.
11. All field cut or drilled areas shall be coated with zinc rich paint.
12. For radii less than 950 feet, the steel tubing shall be shop bent to fit the applicable curve.
13. The drop-weight tear test in section 732 shall not apply to the structural tubing on this standard.
14. All bolts and related hardware shall conform to AASHTO M164 type 1 bolts, hot dipped or mechanically galvanized per specification.



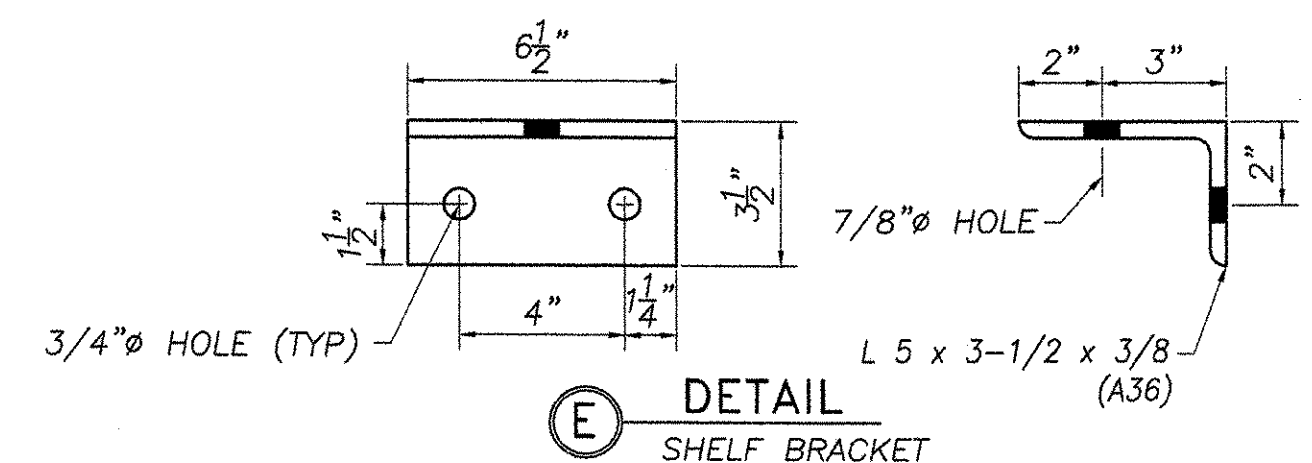
SECTION C



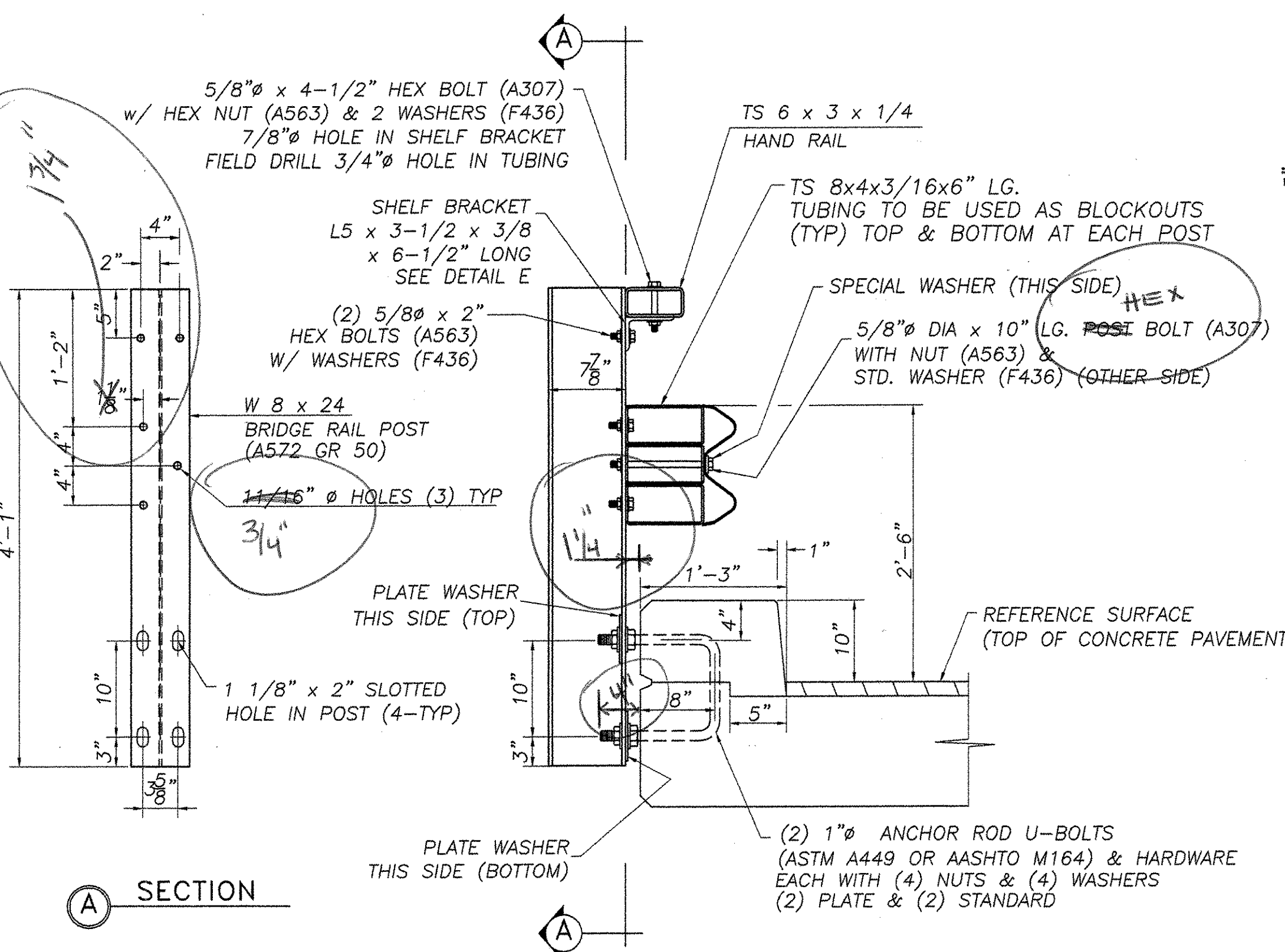
DETAIL "D" STEEL BEAM GUARD RAIL NOT SHOWN



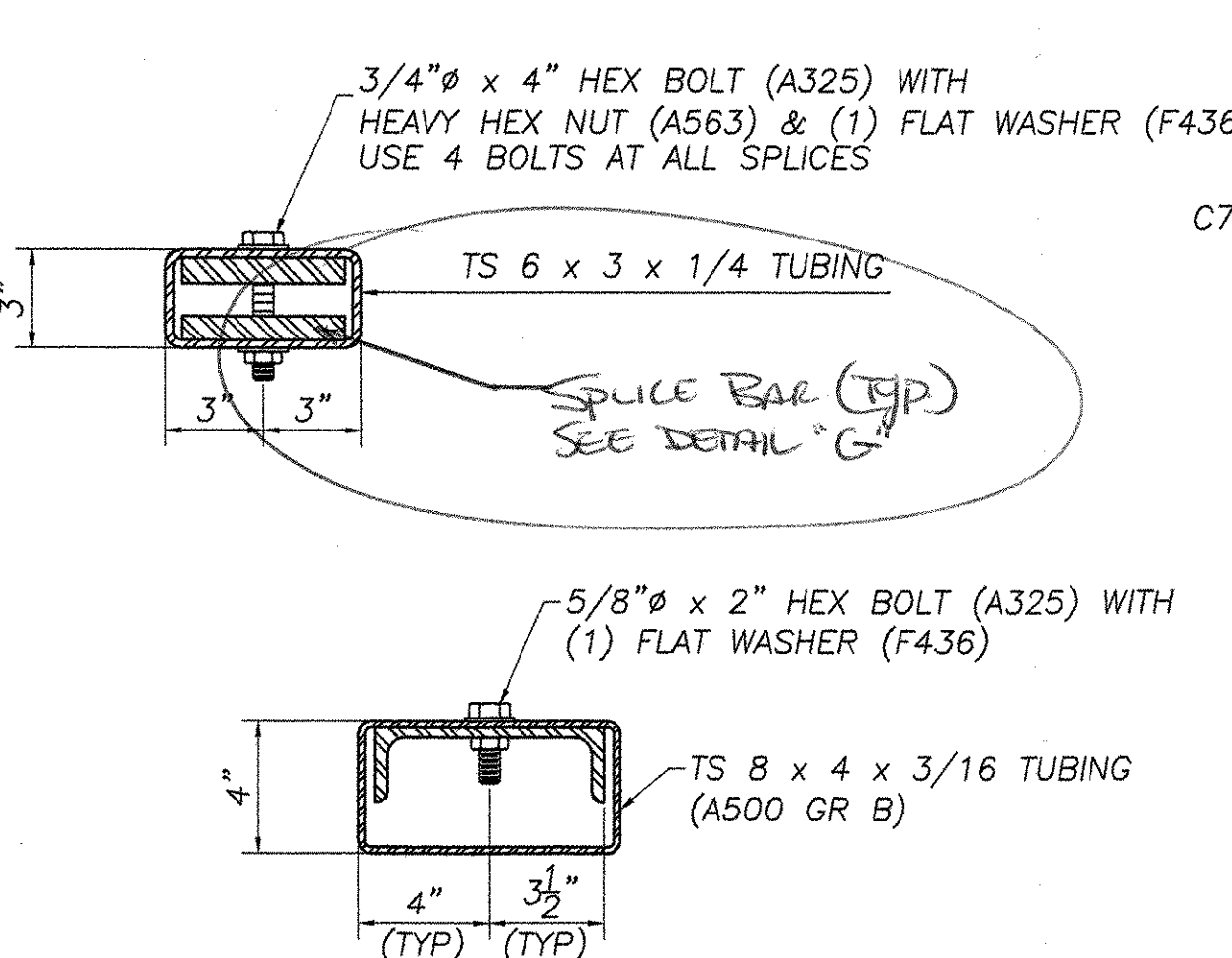
DETAIL "H" TRANSITION POST W8x24 (A572 GR 50)



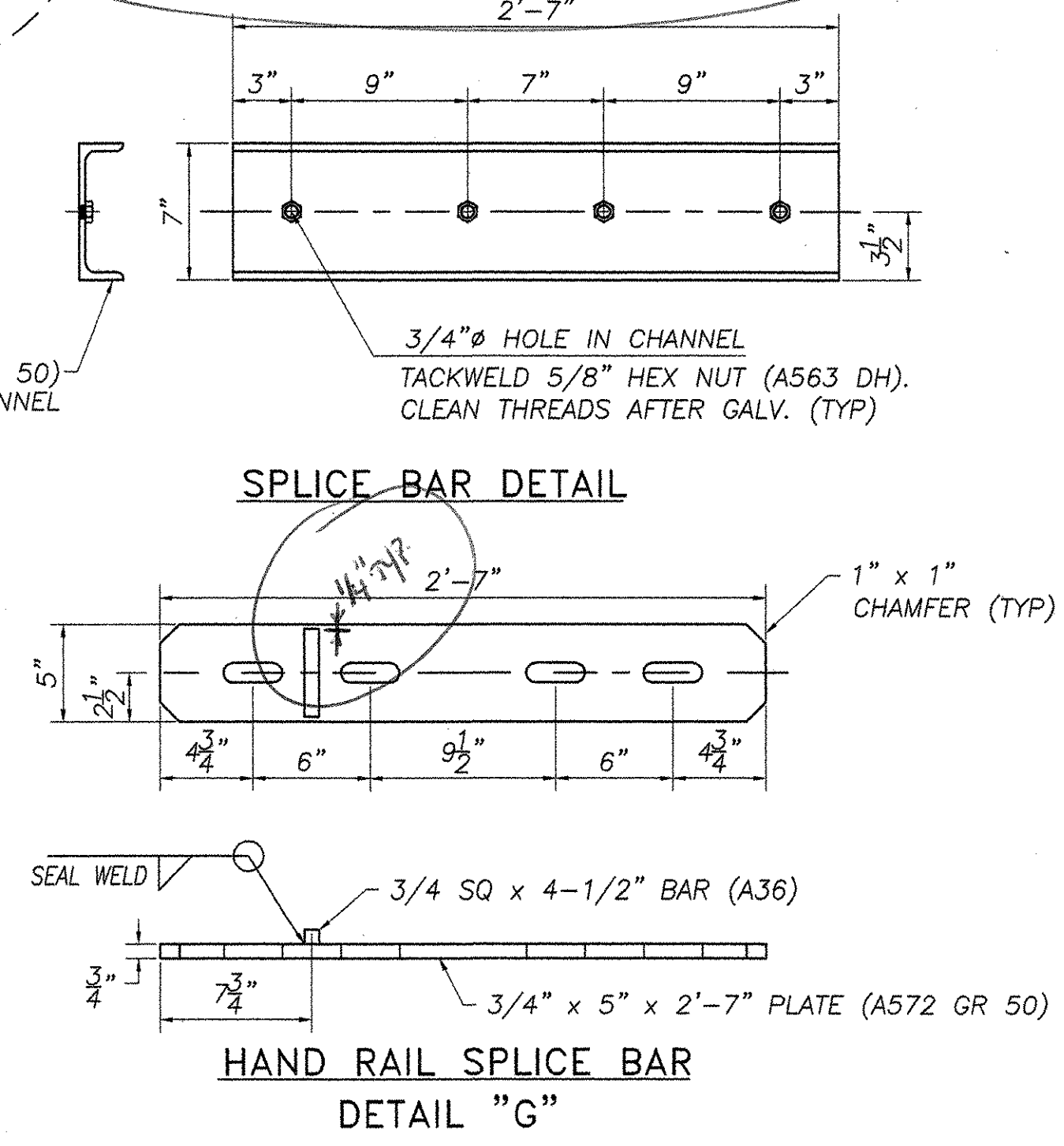
DETAIL E SHELF BRACKET



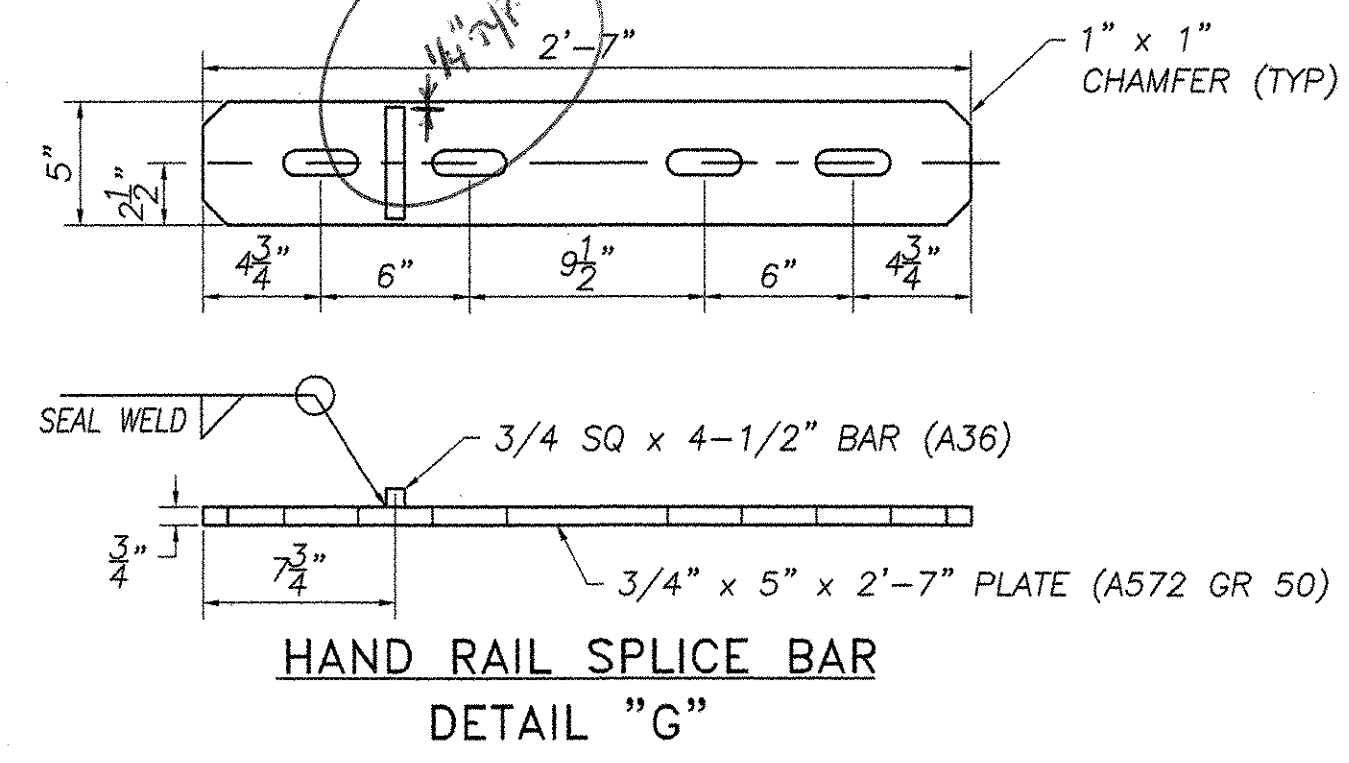
SECTION A



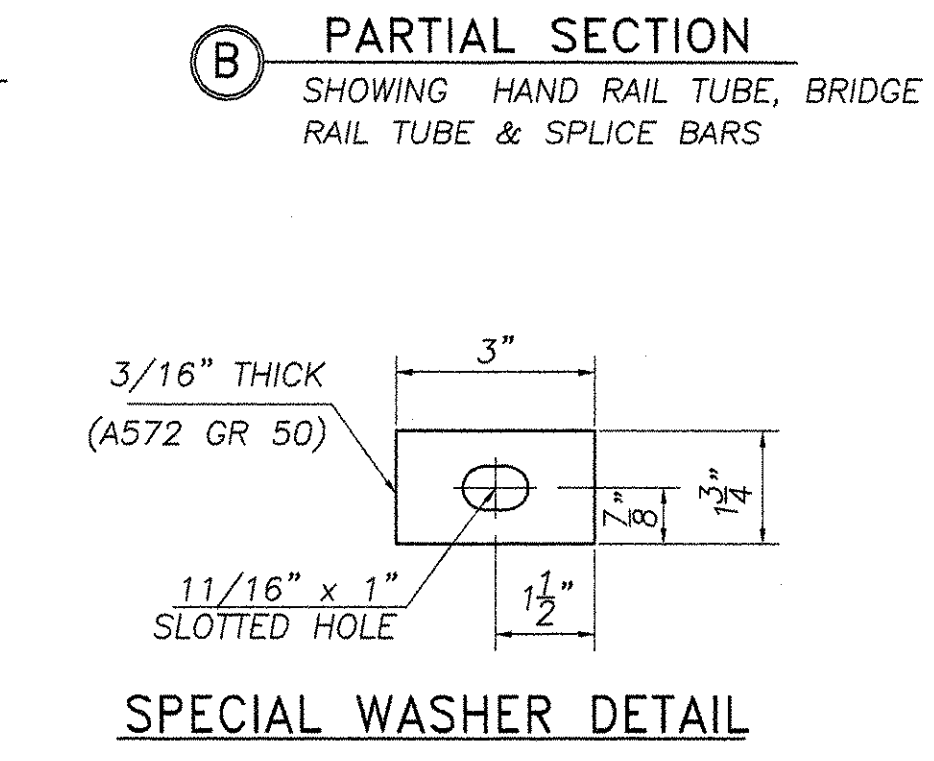
PARTIAL SECTION B SHOWING HAND RAIL TUBE, BRIDGE RAIL TUBE & SPLICE BARS



SPLICE BAR DETAIL



HAND RAIL SPLICE BAR DETAIL "G"



SPECIAL WASHER DETAIL

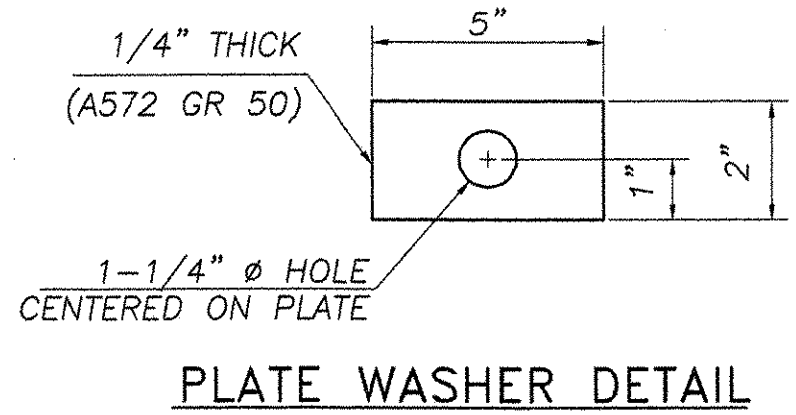


PLATE WASHER DETAIL

FASCIA MOUNTED POST WITH CURB W 8 x 24 (A572 GR 50)

REVISIONS		
No.	Remarks	Date
0	Initial submittal	5/22/04

ACCEPTED  
 PREPARED AS CORRECTED  
 REJECTED, REVISE AND RESUBMIT  
 REJECTED UNACCEPTABLE  
 Drawing is only for conformity with the design portion of the project documents - with the information given in the contract documents. The Designer assumes no liability for errors or omissions in the contract documents. The Contractor shall verify all dimensions and quantities shown on the Contract Documents. Shop drawings shall be submitted to the Designer for review and approval.  
 Date 6/15/04 By JCA



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